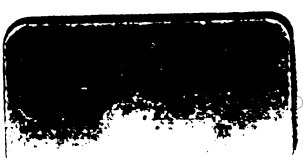

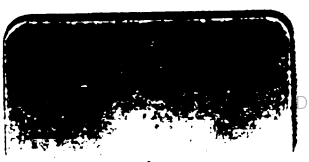

RESULTS

OF

ASTRONOMICAL OBSERVATIONS

MADE AT THE

ROYAL OBSERVATORY,

CAPE OF GOOD HOPE,

IN THE

YEAR 1856,

UNDER THE SUPERINTENDENCE OF

SIR THOS. MACLEAR, KT., F.R.S., F.R.A.S.

REDUCED AND PRINTED UNDER THE SUPERINTENDENCE OF

EDWARD JAMES STONE, M.A., F.R.S., F.R.A.S.,

FELLOW OF QUEEN'S COLLEGE, CAMBRIDGE,

AND HER MAJESTY'S ASTRONOMER AT THE CAPE.

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INTRODUCTION

TO THE

ASTRONOMICAL OBSERVATIONS, 1856.

A few words in explanation of the appearance of this volume under my superintendence may appear desirable.

In the spring of 1870, Sir Thos. Maclear, Kt., F.R.S., resigned the directorship of the Royal Observatory, Cape of Good Hope, an appointment which he had held since 1833. I was appointed to succeed him. My warrant of appointment as "Her Majesty's Astronomer at the Cape" bears the date of 1870, June 4. I arrived at the Cape 1870, October 13, and almost immediately afterwards commenced my residence at the Observatory.

It was known that a large number of observations had been made during the directorship of Sir Thos. Maclear. My instructions on leaving England to take up my appointment were to render these results available for the use of astronomers with as little delay as possible.

The present volume is a first contribution with that object.

The Transit-circle of the Royal Observatory, Cape of Good Hope, was constructed upon Mr. Airy's plans, by Messrs. Ransomes and May, as engineers, and by Mr. Simms, as optician, It is similar in construction and power to the Transit-circle of the Royal Observatory, Greenwich. The only points of difference are two,—the removal of the handles for setting the telescope and the setting-circle to the opposite side of the instrument to that of the finely-divided circle—the piercing of the central cube, to allow of the use of the collimators without the necessity of raising the instrument. A most careful and elaborate description, with plans, of the Greenwich instrument, will be found in the Greenwich Observations, 1852 and 1867. This appears to render any detailed account of the Cape instrument unnecessary.

The Transit-circle was brought into use in 1855. The observations in Right Ascension made during that year are, however, of no

value, on account of serious irregularities in the rates of the Transit-clock. The Observations of North Polar Distance have been printed.

The Transit-clock made use of during the year 1856 was by Robert Molyneux. I have adopted the Right Ascensions of the Greenwich Seven-year Catalogue of 1860 for the tabular places of stars observed for clock-error. The Right Ascensions of the Polar Stars, employed for the determination of azimuthal errors, have been adopted from results obtained by Mr. Mann from observations made at this Observatory. These data are given in Table I.

For stars whose apparent places are contained in the Nautical Almanac for 1856, the star corrections have been generally extracted from that work. For stars very near the Pole, and for stars not contained in the British Association Catalogue for 1850, and for some others when the catalogued places were much in error, the star-constants have been computed directly for the year 1856; but Peter's constants have been employed. These star-constants will be found following the catalogue. For all other stars the constants have been interpolated for the year 1856 between the constants given in the British Association Catalogue for 1850 and constants computed from the same formula for the year 1860.

The collimation errors have been determined by Gauss' method. The apertures of the collimating telescopes are four inches.

The collimation errors, including the effects of diurnal aberration, will be found in Table II.

The level errors have been determined by the use of a Bohnenberger's reflecting eye-piece.

These errors have been inconveniently large, and a readjustment by the insertion of tin-foil under the plate carrying the western pivot was found necessary, and effected 1856, July 27.

The level errors and azimuthal errors will be found in Table III.

The clock errors and rates will be found in Table IV. The personal equations used in the reductions of the clock-rates were—

$$\begin{aligned} T - W &= -0^{s}\cdot 25 \\ T - G &= -0^{s}\cdot 25 \\ W - G &= 0^{s}\cdot 00 \end{aligned}$$

The personal equations deduced from the observations of 1856 will be found at the end of the "Clock-errors and Rates."

The observations for 1856 were all eye and ear observations. The Right Ascensions of clock-stars have not been retained, unless at least observations of five stars have been employed in fixing the clock-error. The Right Ascensions of close polar-stars have not been

retained unless at least one close polar-star has been observed on the same day above and below the Pole.

The form of the pivots of the Transit-circle was examined in 1855, April. The irregularities were found to be insensible.

The flexure was found to be 0″·26 sine (zenith distance), the object-glass end falling most.

The errors of division were determined for every five degrees. The results will be found in Table V.

From the results for every five degrees, results for each degree were obtained by simple interpolation. The mean result for the six microscopes, including the flexure correction, will be found in Table VI. The argument is the zenith-distance pointer. When the argument is 0°, or the telescope is directed towards the zenith, the division under the most northerly microscope, A, is 270°. When the argument is 5°, or the telescope is directed 5° south, then the division under microscope A is 275°.

The runs for 5′ of arc on the circle will be found in Table VII.

The Nadir points have been determined by taking the mean of the results obtained from the use of a Bohnenberger's reflecting eye-piece, and of stars observed directly and after reflexion at the surface of Mercury. The results will be found in Table VIII.

These tables have been given to allow of an independent judgment being formed of the stability of the instrumental adjustments, and of the rates of the clock.

The barometer is by Newman. It now reads 0·015 inch higher than the standard of the Greenwich Observatory. No correction for index error has been applied. It is placed in the Transit-circle room at a height of about thirty-seven feet above the mean level of the sea.

The thermometer is by Dollond; it has a large spherical-bulb and large bore. The scale is on ivory. It was confined in a very small case attached to the south-wall of the Transit-circle room until 1856, July 18, when it was removed to a crib before the south-west window of the Transit-circle room. The position is far more open than the original one; but the free circulation of air around the bulb is still impeded by the projection of the dwelling-houses beyond the crib. The refractions employed in the reductions are those of Bessel's Tabulæ Regiomontanæ down to 85° zenith-distance. Below 85° zenith-distance, the mean refractions are those of the Fundamenta multiplied by 1,003282. The whole of the refractions are, therefore, deduced with the mean refractions of the Fundamenta multiplied by 1,003282. These refractions appear too great; but no sufficiently large range of circumpolar stars has been observed to allow of the separation of the

error of assumed latitude. The division-error corrections also are not determined with a sufficient accuracy for any delicate inquiry into the error of assumed latitude. A re-determination of the division-errors, with this object, is in hand.

In the North-polar Distance Ledger the mean results of the direct and reflected observations are alone given. The separate results can be obtained, if required, from Table VIII.

The tabular quantities have been, in general, interpolated from the Nautical Almanac. The value 8″·90 has, however, been adopted for the mean horizontal equatorial parallax of the Sun.

The tabular times of duration of the passage of semi-diameter and vertical semi-diameter of the Sun require to be diminished by 0ˢ·05 and 0″·51 respectively, to represent the Cape observations. These corrections, which are the values deduced from sixty-nine and fifty-five observations, respectively, have been applied to all the observations of single limbs.

The first and second limbs of Venus were observed from June 10 to September 6. The mean of the eight observations gives a correction of + 0ˢ·04 to the time of duration of passage of semi-diameter. This correction has been applied to all the observations of the year excepting those from June 10 to September 6, when both limbs were observed. The observations in N.P.D. are all either observations of the centre or of the mean of two limbs. From forty-eight observations of the vertical semi-diameter, the correction to the tabular quantity is + 0″.44. The observations of Mercury and Mars are those of the centre. Mars is only observed in N.P.D. The observations of Jupiter are the means of two limbs. The correction given by twelve observations for the duration of passage of semi-diameter and for vertical semi-diameter are + 0ˢ·07 and + 1″·06 respectively. The instrumental errors—chiefly the level errors—have been so large that the Moon's motion between the time of observation and passage over the true meridian is generally quite sensible. A correction for this motion has been applied throughout the year whenever necessary. The observations of the time of transit of the Moon's limbs over true meridian are given with the corresponding observations of the Moon culminating-stars. The Moon has sometimes been observed when the only stars available for the determination of clock-error are the Moon culminating-stars. On these occasions, and all others, when at least five-clock-stars have not been observed by the same observer on the same day, the observations of the Moon culminating-stars would not appear in the present volume, except in the present section.

Three occultations of stars by the Moon were observed in 1856.

A series of observations of Encke's Comet, made by Mr. Mann in 1855 with the 8½-feet equatoreal, is appended to the results for 1856. These observations have been previously published in the Memoirs of the Royal Astronomical Society, vol. xxi. The comparison stars were observed in 1856, and their places given in the present volume will be found to differ slightly in Right Ascension from those originally adopted. It has been thought better, therefore, under these circumstances, to reprint the observations of Encke's Comet.

It will be seen that the Right Ascensions rest fundamentally upon those of the Greenwich Seven-year Catalogue for 1860. The observations in Right Ascensions of the principal stars are not sufficiently numerous and well distributed to afford any important independent check upon the accuracy of the Greenwich places.

The Sun observations are not sufficiently complete or well distributed for the determination of errors of obliquity and epoch within existing uncertainties. The planet Mars is only observed in North Polar Distance. The parallax-factor is too small for any advantageous employment of these observations in determining a correction to solar-parallax.

The observations with the Transit-circle during the year 1856 were made by Mr. (now Sir Thomas) Maclear, Mr. William Mann, and Mr. George Maclear. The observations made by these gentlemen are distinguished by the letters T, W, and G, respectively.

The latitude and longitude of the Transit-circle assumed in the reductions are those determined by Mr. Thomas Henderson:

Latitude	...	...	33° 56′ 3·2″ South.
Longitude	...	...	$1^h\ 13^m\ 55^s$ East of Greenwich.

From a discussion of the observations of the Moon made during the year 1856, with corresponding observations made at the Greenwich Observatory on nights when one culminating-star at least was observed, with the Moon at each station, I have deduced a correction to the assumed longitude of -1^s.

This correction, although resulting from 17 observations of the first and 16 observations of the second limb, can hardly be looked upon as definite, and no alteration appears desirable until the observations of a few more years shall have been compared.

The observations have been reduced by the application of formulæ similar to those usually employed in the principal English observatories, and the results have been carried to the same degree of approximation.

E. J. STONE.

1871, February 13.

ROYAL OBSERVATORY,
CAPE OF GOOD HOPE.

TABLES
OF
ADOPTED RIGHT ASCENSIONS
OF
CLOCK STARS
AND
INSTRUMENTAL CORRECTIONS
1856.

TABLE I.

Assumed Mean Right Ascensions of Clock Stars and Circumpolar Stars, with Corrections to the Nautical Almanac for 1856, *January* 1.

Star's Name.	Mean Right Ascension, 1856, Jan. 1.	Correction to N.A.	Star's Name.	Mean Right Ascension, 1856, Jan. 1.	Correction to N.A.
	h m s	s		h m s	s
α Andromedæ.	0 0 57·10	+ 0·04	α Orionis.....	5 47 22·61	+ 0·01
γ Pegasi.....	0 5 49·47	+ 0·02	ν Orionis.....	5 59 21·01	
o Octantis.....	0 13 33·17		η Geminorum.....	6 6 11·17	
12 Ceti.....	0 22 41·40		κ Aurigæ.....	6 6 12·15	
β Ceti.....	0 36 21·54	+ 0·06	μ Geminorum.....	6 14 14·90	0·00
δ Piscium.....	0 41 12·85		γ Geminorum.....	6 29 23·55	
ε Piscium.....	0 55 28·35		ε Geminorum.....	6 35 4·22	
σ Piscium.....	1 0 57·25		ε Canis Majoris....	6 52 58·02	0·00
θ Ceti.....	1 16 49·55	+ 0·02	ζ Geminorum.....	6 55 34·02	
η Piscium.....	1 23 46·99		γ Canis Majoris....	6 57 14·60	
π Piscium.....	1 29 28·16		δ Geminorum.....	7 11 31·19	— 0·01
ν Piscium.....	1 33 56·42		ι Geminorum.....	7 16 46·72	
o Piscium.....	1 37 47·64		a^2 Geminorum.....	7 25 24·36	0·00
β Arietis.....	1 46 41·54		α Canis Minoris....	7 31 45·76	+ 0·10
α Arietis.....	1 59 3·82	+ 0·02	β Geminorum.....	7 36 29·96	+ 0·05
67 Ceti.....	2 9 48·16		6 Cancri.....	7 54 40·08	
ξ^2 Ceti.....	2 20 30·41		15 Argûs.....	8 1 24·72	+ 0·01
γ Ceti.....	2 35 50·55	+ 0·04	ψ^2 Cancri.....	8 1 46·46	
ε Arietis.....	2 50 59·11		A Octantis.....	8 22 45·14	
α Ceti.....	2 54 45·32	+ 0·04	η Cancri.....	8 24 22·56	
δ Arietis.....	3 3 24·08		γ Cancri.....	8 34 56·84	
17 Tauri.....	3 36 19·91		ε Hydræ.....	8 39 8·83	— 0·02
η Tauri.....	3 38 55·89	+ 0·05	α Cancri.....	8 50 36·47	
γ Eridani.....	3 51 18·72	+ 0·04	83 Cancri.....	9 10 56·34	
o^1 Eridani.....	4 4 50·27		α Hydræ.....	9 20 30·65	+ 0·05
ε Tauri.....	4 20 12·74		ε Leonis.....	9 37 40·24	+ 0·03
α Tauri.....	4 27 39·69	— 0·01	ν Leonis.....	9 50 28·35	
ε Leporis.....	4 59 21·96		π Leonis.....	9 52 36·04	
β Orionis.....	5 7 37·11	0·00	α Leonis.....	10 0 41·97	+ 0·05
β Tauri.....	5 17 11·52	+ 0·01	γ^1 Leonis.....	10 12 1·68	
δ Orionis.....	5 24 39·04	— 0·04	ρ Leonis.....	10 25 13·55	
α Leporis.....	5 26 22·78	— 0·04	ι Leonis.....	10 41 41·11	
ε Orionis.....	5 28 54·44	— 0·01	σ Leonis.....	10 53 16·82	
ζ Tauri.....	5 29 2·49		χ Leonis.....	10 57 35·20	
α Columbæ.....	5 34 26·07	— 0·16	δ Leonis.....	11 6 26·69	+ 0·02

TABLE I.—*Continued.*

Assumed Mean Right Ascensions of Clock Stars and Circumpolar Stars, with corrections to the Nautical Almanac for 1856, *January* 1.

Star's Name.	Mean Right Ascension, 1856, Jan. 1.	Correction to N.A.	Star's Name.	Mean Right Ascension, 1856, Jan. 1.	Correction to N.A.
	h m s	s		h m s	s
δ Crateris	11 12 8·63	+ 0·05	σ Scorpii	16 12 26·47	
σ Leonis	11 13 42·60		α Scorpii	16 20 35·04	0·00
τ Leonis	11 20 31·86		κ Ophiuchi	16 50 51·23	
υ Leonis	11 29 34·56		α Herculis	17 8 5·00	+ 0·11
β Leonis	11 41 42·72	+ 0·06	θ Ophiuchi	17 13 10·16	
β Virginis	11 43 11·63		d Ophiuchi	17 18 9·82	
π Virginis	11 53 29·58		α Ophiuchi	17 28 15·11	+ 0·10
ε Corvi	12 2 43·49		μ Herculis	17 40 49·49	
η Virginis	12 12 32·38		σ Octantis	17 40 52·70	
β Corvi	12 26 49·82	+ 0·13	μ Sagittarii	18 5 9·10	+ 0·05
∗ Octantis	12 28 58·06		δ Sagittarii	18 11 46·53	
χ Virginis	12 31 49·01		λ Sagittarii	18 19 5·03	
ψ Virginis	12 46 52·06		α Lyræ	18 32 3·80	+ 0·07
δ Virginis	12 48 21·07		φ Sagittarii	18 36 39·45	
θ Virginis	13 2 29·84		β Lyræ	18 44 45·86	+ 0·11
α Virginis	13 17 36·67	+ 0·03	σ Sagittarii	18 46 20·05	
ζ Virginis	13 27 21·49		ζ Aquilæ	18 58 47·51	+ 0·12
m Virginis	13 34 3·48		ω Aquilæ	19 11 3·43	
η Boötis	13 47 49·70	+ 0·04	δ Aquilæ	19 18 14·21	+ 0·03
τ Virginis	13 54 19·23		h^3 Sagittarii	19 27 56·38	
κ Virginis	14 5 13·15		γ Aquilæ	19 39 24·81	+ 0·04
α Boötis	14 9 5·68	+ 0·05	α Aquilæ	19 43 45·41	+ 0·04
λ Virginis	14 11 19·45		β Aquilæ	19 48 14·35	+ 0·02
z Octantis	14 22 18·48		c Sagittarii	19 53 47·84	
ε Boötis	14 38 41·91	+ 0·08	α^2 Capricorni	20 10 3·70	+ 0·05
α^2 Libræ	14 42 55·08	— 0·03	ρ Capricorni	20 20 38·55	
20 Libræ	14 55 39·04		B Octantis	20 29 22·10	
ψ Boötis	14 58 16·57		ψ Capricorni	20 37 33·76	
β Libræ	15 9 15·76	+ 0·04	32 Vulpeculæ	20 48 25·45	
ζ^1 Libræ	15 20 8·48		θ Capricorni	20 57 50·81	
α Coronæ Borealis	15 28 35·54	+ 0·07	ζ Cygni	21 6 48·56	+ 0·07
α Serpentis	15 37 10·64	+ 0·03	ι Capricorni	21 14 13·38	
δ Scorpii	15 51 49·52		β Aquarii	21 23 58·50	+ 0·03
β Scorpii	15 57 4·18	+ 0·04	γ Capricorni	21 32 6·43	
δ Ophiuchi	16 6 48·14	+ 0·05	ε Pegasi	21 37 6·81	+ 0·03

TABLE I.—*Concluded.*

Assumed Mean Right Ascensions of Clock Stars and Circumpolar Stars, with Corrections to the Nautical Almanac for 1856, *January* 1.

Star's Name.	Mean Right Ascension, 1856, Jan. 1.	Correction to N.A.	Star's Name.	Mean Right Ascension, 1856, Jan. 1.	Correction to N.A.
	h m s	s		h m s	s
δ Capricorni.....	21 39 5·26		α Piscis Australis..	22 49 41·06	+0·04
16 Pegasi.....	21 46 30·73		α Pegasi.....	22 57 35·40	+0·01
α Aquarii.....	21 58 23·18	+0·06	τ Octantis.....	23 4 8·49	
ι Aquarii.....	21 58 39·31		φ Aquarii.....	23 6 51·79	
C Octantis.....	22 2 37·91		γ Piscium.....	23 9 42·05	
			κ Piscium.....	23 19 33·01	
θ Aquarii.....	22 9 13·91		ι Piscium.....	23 32 32·65	−0·04
σ Aquarii.....	22 23 1·40		δ Sculptoris.....	23 41 25·04	
η Aquarii.....	22 27 57·32		21 Piscium.....	23 42 5·08	
ζ Pegasi.....	22 34 16·87	+0·08	ω Piscium.....	23 51 55·08	
λ Aquarii.....	22 45 5·96		33 Piscium.....	23 57 57·85	

TABLE II.

Errors of Collimation of the Transit-circle used in the reduction of the Observations, 1856.

Day.	Error of Collimation.	Day.	Error of Collimation.	Day.	Error of Collimation.
	s		s		s
Jan. 1 — 5	+ 0·003	May 21 — 24	0·000	Sept. 1 — 3	0·000
6	— 0·016	26	— 0·011	4 — 5	— 0·011
7 — 19	+ 0·003	27 — 29	0·000	6 — 9	0·000
20	— 0·003	May 30—June 1	— 0·015	10	— 0·008
22 — 26	+ 0·003	2 — 3	0·000	11	0·000
27	+ 0·001	4 — 6	+ 0·013	12	+ 0·181
Jan. 28—Feb. 4	+ 0·003	7 — 8	+ 0·028	13	0·000
5	+ 0·106	9	0·000	14	+ 0·008
7	+ 0·019	10	+ 0·010	15 — 16	0·000
8 — 9	+ 0·003	11 — 14	0·000	17	— 0·005
10	+ 0·012	15	+ 0·002	18	0·000
11 — 12	+ 0·003	16 — 17	0·000	19	— 0·002
13	— 0·004	19	— 0·011	20	— 0·026
14 — 16	+ 0·003	21	— 0·023	21 — 23	0·000
17	— 0·007	22 — 26	0·000	24	+ 0·004
18 — 24	+ 0·003	27 — 29	+ 0·031	25 — 26	0·000
25 — 29	0·000	June 30—July 1	0·000	27	— 0·020
Mar. 1 — 3	+ 0·010	2 — 3	+ 0·015	30	— 0·010
4 — 22	0·000	4	0·000	Oct. 1 — 2	— 0·003
23	— 0·051	5 — 6	— 0·010	3	— 0·006
Mar. 24—Apr. 11	0·000	7 — 8	0·000	4 — 9	0·000
12 — 13	+ 0·035	9 — 12	+ 0·012	10 — 14	— 0·005
14 — 17	0·000	14 — 22	0·000	15 — 18	— 0·017
19	— 0·012	23	— 0·008	20 — 22	0·000
20	— 0·024	July 27—Aug. 1	0·000	23	+ 0·017
21 — 25	0·000	2	— 0·006		
26 — 27	— 0·015	3 — 5	0·000	Oct. 26—Nov. 6	0·000
Apr. 28—May 3	0·000	8 — 10	— 0·021	9 — 10	+ 0·002
4 — 5	+ 0·016	11 — 14	0·000	11 — 13	— 0·003
6 — 7	0·000	15 — 17	— 0·030	15 — 17	0·000
8 — 11	+ 0·017	18 — 22	0·000	18 — 23	+ 0·009
12	0·000	23 — 24	— 0·018	24 — 25	— 0·012
13	— 0·951	27	+ 0·021	28	0·000
14 — 16	0·000	29	0·000	Dec. 2 — 10	+ 0·008
19 — 20	+ 0·001	30 — 31	— 0·003	13 — 31	+ 0·022

On May 13 the setting of the Transit-micrometer was found to be one revolution in error.

TABLE III.

Level and Azimuthal Errors of the Transit-circle, 1856.

Day.	Level Error. Observed.	Level Error. Adopted.	Determining Stars for Azimuthal Error.	Azimuthal Error. Observed.	Azimuthal Error. Adopted.	Observer.
	s	s		s	s	
Jan. 1	— 0·751	— 0·751				T
1	·745					T
2	·757					T
3	·784					T
4	·786	— 0·782	σ Octantis S.P. and α Orionis	+ 0·091		T
4	·775					T
7	·804	— 0·799	σ Octantis S.P. and α Orionis	+ 0·097		G
7	·794					G
8	·794	— 0·794	σ Octantis S.P. and α Orionis	+ 0·076		G
8	·794				+ 0·084	G
9	·796	— 0·790	σ Octantis S.P. and α Orionis	+ 0·070		G
9	·784					G
10	·791	— 0·786	σ Octantis S.P. and α Orionis	+ 0·061		G
10	·780		τ Octantis S.P. and δ Crateris	+ 0·112		G
11	·793	— 0·784				G
11	·774					G
12	·798					G
14	·770	— 0·771	σ Octantis S.P. and α Orionis	+ 0·051		G
14	·772					G
15	·762	— 0·763	σ Octantis S.P. and α Orionis	+ 0·130		G
15	·764				+ 0·093	G
17	·742	— 0·750				G
18	·755		τ Octantis S.P. and δ Crateris	+ 0·085		G
18	·754					G
19	·774	— 0·774	σ Octantis S.P. and α Orionis	+ 0·104		G
22	·807					G
23	·796	— 0·804				G
24	·805					G
24	·807					G
25	·806		σ Octantis S.P. and α Orionis	+ 0·080		G
25	·798	— 0·805				G
26	·806		σ Octantis S.P. and α Orionis	+ 0·081		G
27	·809				+ 0·093	G
28	·822	— 0·825	σ Octantis S.P. and α Orionis	+ 0·116		G
28	·828					G
29	·830	— 0·830	σ Octantis S.P. and α Orionis	+ 0·096		G
29	·827					G
30	·828	— 0·826				G
30	— 0·824					G

TABLE III.—*Continued.*

Level and Azimuthal Errors of the Transit-circle, 1856.

Day.	Level Error. Observed.	Level Error. Adopted.	Determining Stars for Azimuthal Error.	Azimuthal Error. Observed.	Azimuthal Error. Adopted.	Observer.
	s	s		s	s	
Jan. 31	— 0·825	— 0·813	σ Octantis S.P. and α Orionis	+ 0·103		G
31	·800					G
Feb. 1	·813	— 0·817	σ Octantis S.P. and α Orionis	+ 0·118		G
1	·821					G
2	·839	— 0·839	σ Octantis S.P. and α Orionis	+ 0·138		G
4	·881	— 0·873	σ Octantis S.P. and α Orionis	+ 0·090		G
4	·864				+ 0·107	G
5	·881	— 0·872	σ Octantis S.P. and α Orionis	+ 0·085		G
5	·862					G
7	·818	— 0·815				G
7	·811					G
8	·819	— 0·818				G
8	·818					G
9	·840	— 0·840				G
11	·853	— 0·841	σ Octantis S.P. and α Orionis	+ 0·146		G
11	·828					G
12	·818	— 0·813	σ Octantis S.P. and α Orionis	+ 0·338		G
12	·808				+ 0·204	G
13	·838	— 0·838	σ Octantis S.P. and α Orionis	+ 0·214		G
13	·837					G
14	·842	— 0·845	σ Octantis S.P. and α Orionis	+ 0·117		G
14	·847					G
15	·867	— 0·870	σ Octantis S.P. and α Orionis	+ 0·109		G
15	·873					G
16	·890	— 0·890	σ Octantis S.P. and α Orionis	+ 0·120	+ 0·124	G
17	·919	— 0·913				G
17	·907					G
18	·922	— 0·894				G
19	·885		σ Octantis S.P. and α Orionis	+ 0·143		G
19	·874				+ 0·124	G
20	·890	— 0.890				G
21	·873	— 0·860				G
21	·848					G
22	·835	— 0·835	σ Octantis S.P. and α Orionis	+ 0·151		G
23	·827	— 0·827				G
24	·819	— 0.818				G
25	·816	— 0.842				G
26	·870	— 0.866				G
26	— 0·861					G

TABLE III.—*Continued.*

Level and Azimuthal Errors of the Transit-circle, 1856.

Day.	Level Error. Observed.	Level Error. Adopted.	Determining Stars for Azimuthal Error.	Azimuthal Error. Observed.	Azimuthal Error. Adopted.	Observer.
	s	s		s	s	
Feb. 27	— 0·910	— 0·883				G
27	·856					G
28	·894	— 0·876	σ Octantis. S.P. and α Orionis... ...	+ 0·103	+ 0·156	G
28	·857					G
29	·877	— 0·871				G
29	·864					G
March 1	·867	— 0·867	A Octantis, ε Canis Maj., & α Hydræ	+ 0·214		G
2	·916					G
3		— 0·900				G
4	·890	— 0·897				G
4	·903					G
6	·854					G
7	·850	— 0·854				G
8	·859					G
10	·893	— 0·888				G
10	·883					G
12	·903	— 0·889	A Octantis, ε Canis Maj., & α Hydræ	+ 0·226		G
12	·874					G
13	·905	— 0·905	A Octantis, ε Canis Maj., & α Hydræ	+ 0·272		G
14	·931	— 0·931			+ 0·265	G
15	·948	— 0·948				G
16		— 0·939	A Octantis and α Hydræ	+ 0·255		
17						
18						
19	·933					T
19	·930	— 0·930				T
19	·928					T
20		— 0·923	C Octantis. S.P. and η Virginis ...	+ 0·305		
21	·922	— 0·916				T
22	·909					T
24	·911	— 0·917				T
25	·923					T
26	·904	— 0·904			+ 0·207	T
27	·965	— 0·958	A Octantis and 15 Argûs	+ 0·226		G
27	·951		C Octantis. S.P. and 15 Argûs... ...	+ 0·200		T
			τ Octantis. S.P. and β Corvi	+ 0·195		
28	·953	— 0·941	A Octantis and 15 Argûs	+ 0·272		G
28	·928		C Octantis. S.P. and 15 Argûs... ...	+ 0·252		T
			τ Octantis. S.P. and β Corvi	+ 0·213		
			σ Octantis and Fomalhaut	+ 0·192	+ 0·232	

TABLE III.—*Continued.*

Level and Azimuthal Errors of the Transit-circle, 1856.

Day.	Level Error. Observed.	Level Error. Adopted.	Determining Stars for Azimuthal Error.	Azimuthal Error. Observed.	Azimuthal Error. Adopted.	Observer.
	s	s		s	s	
March 29	— 0·933	— 0·930				G
29	·926					T
30	·945	— 0·937				T
April 1	·929		τ Octantis S.P. and β Corvi	+ 0·273		T
2	·946	— 0·946	τ Octantis S.P., β and α Aquarii ...	+ 0·274		G
3	·930	— 0·930	A Octantis and 15 Argûs	+ 0·337	+ 0·280	G
			C Octantis S.P. and 15 Argûs ...	+ 0·253		
			τ Octantis S.P. and 15 Argûs	+ 0·261		
7	·890	— 0·890	A Octantis and 15 Argûs	+ 0·396		G
			τ Octantis S.P. and β Corvi	+ 0·332		
8	·913	— 0·919	A Octantis and 15 Argûs	+ 0·321		G
8	·924		C Octantis S.P. and 15 Argûs	+ 0·250	+ 0·318	T
			τ Octantis S.P. and β Corvi	+ 0·289		
9		— 0·938				
10	·962	— 0·955	A Octantis and 15 Argus	+ 0·332		G
11	·956					T
13	·938					T
14	·947					G
15	·961	— 0·953				G
15	·946					W
15	·960					T
16	·966	— 0·940	τ Octantis S.P., δ and α Orionis ...	+ 0·330		W
16	·914					T
17	·949		C Octantis S.P. and α Hydræ	+ 0·550	+ 0·404	T
17	·974	— 0·964				G
17	·968					W
19	·955	— 0·955				T
20		— 0·963				
21	·952					W
21	·990	— 0·971				T
22	·970	— 0·958				W
22	·946					T
23	·945	— 0·945				T
24	·943					W
24	·976	— 0·952				G
24	·936					T
25	— 0·934	— 0·934				G

TABLE III.—*Continued.*

Level and Azimuthal Errors of the Transit-circle, 1856.

Day.	Level Error. Observed.	Level Error. Adopted.	Determining Stars for Azimuthal Error.	Azimuthal Error. Observed.	Azimuthal Error. Adopted.	Observer.
	s	s		s	s	
April 26	— 0·960	— 0·971				T
26	0·981					W
27	1·003	— 1·003				T
28	1·006	— 1·006				W
29	1·016		τ Octantis S.P. and δ Crateris	+ 0·278		G
29	1·044	— 1·027			+ 0·347	W
29	1·027					T
30	1·036	— 1·036				W
May 1	1·021					W
1	1·020	— 1·021				T
2	1·072	— 1·072	τ Octantis S.P. and α Hydræ	+ 0·415		G
3	1·063	— 1·063				G
5	1·059	— 1·059				G
6	1·041					G
8	1·080	— 1·061				W
9	1·069	— 1·069	τ Octantis S.P., Aldebaran, α Orionis	+ 0·435		T
10	1·079	— 1·079	τ Octantis S.P. and δ Crateris	+ 0·453		W
			o Octantis S.P. and δ Crateris	+ 0·372		
11	1·081	— 1·081	2 Consecutive Transits of β Hydri	+ 0·511		T
12	1·061				+ 0·443	G
13	1·074	— 1·068				W
14	1·079					G
15	1·071	— 1·075				T
16	1·061					G
16	1·066	— 1·064				T
20	1·122					W
20	1·131	— 1·127				T
21	1·119		5 Consecutive Transits of C Octantis	+ 0·339	+ 0·339	G
21	1·159	— 1·139				T
22	1·293					W
22	1·301	— 1·297				T
23	1·244		5 Consecutive Transits of C Octantis	+ 0·270	+ 0·270	G
23	1·304	— 1·274				T
24	1·277	— 1·277				W
27	1·287	— 1·287				W
28	1·307					G
29	— 1·268	— 1·288				W

TABLE III.—*Continued.*

Level and Azimuthal Errors of the Transit-circle, 1856.

Day.	Level Error. Observed.	Level Error. Adopted.	Determining Stars for Azimuthal Error.	Azimuthal Error. Observed.	Azimuthal Error. Adopted.	Observer.
	s	s		s	s	
May 30	— 1·332		2 Consecutive Transits of C Octantis	+ 0·095		G
30	1·334	— 1·333			+ 0·118	T
31	1·325	— 1·325	5 Consecutive Transits of τ Octantis	+ 0·118		W
June 1	1·339	— 1·339				T
2	1·317		5 Consecutive Transits of C Octantis	+ 0·136		G
2	1·359	— 1·338	5 Consecutive Transits of τ Octantis	+ 0·134	+ 0·135	T
3	1·312					T
3	1·286	— 1·337				W
3	1·412					T
4	1·336					T
4	1·358	— 1·375	June 3rd to 6th, 6 Consecutive Transits of τ Octantis.	+ 0·121		T
4	1·432				+ 0·121	T
5	1·378					W
5	1·378	— 1·378	6 Consecutive Transits of τ Octantis	+ 0·121	+ 0·121	T
6	1·403					G
6	1·381	— 1·392				T
7	1·365					T
7	1·374	— 1·389				W
7	1·428					T
8	1·378		5 Consecutive Transits of τ Octantis	+ 0·104	+ 0·104	T
8	1·372	— 1·375				T
9	1·373	— 1·373				G
10	1·315					T
10	1·321	— 1·360				W
10	1·443					T
11	1·313		4 Consecutive Transits of τ Octantis	+ 0·186	+ 0·186	T
11	1·315	— 1·326				G
11	1·338					T
11	1·338					T
14	1·277					W
15	1·275	— 1·276				W
16	1·312		3 Consecutive Transits of τ Octantis	+ 0·194		T
16	1·317	— 1·312				G
16	1·307		3 Consecutive Transits of o Octantis	+ 0·174		T
17	1·322					T
17	1·332	— 1·338	3 Consecutive Transits of * Octantis	+ 0·154		T
17	— 1·361					W

TABLE III.—*Continued.*

Level and Azimuthal Errors of the Transit-circle, 1856.

Day.	Level Error. Observed.	Level Error. Adopted.	Determining Stars for Azimuthal Error.	Azimuthal Error. Observed.	Azimuthal Error. Adopted.	Observer.
	s	s		s	s	
June 18	— 1·332					T
18	1·335					T
18	1·327	— 1·330				T
18	1·322					T
18	1·334				+ 0·174	T
19	1·299					T
19	1·293	— 1·308				W
19	1·314					T
19	1·324					T
20	1·321					T
20	1·318	— 1·318				T
20	1·316					T
21	1·326	— 1·326				W
22	1·332					T
22	1·338	— 1·335				T
23	1·341	— 1·341				G
25	1·330					T
25	1·339	— 1·335				T
26	1·331		2 Consecutive Transits of *o* Octantis	+ 0·058	+ 0·058	T
26	1·342	— 1·337				T
27	1·305					T
27	1·311	— 1·308				T
28	1·316					T
28	1·325		3 Consecutive Transits of *o* Octantis	+ 0·185		W
28	1·315	— 1·316			+ 0·183	T
28	1·309		3 Consecutive Transits of * Octantis	+ 0·180		T
29	1·331					T
29	1·343	— 1·337				T
30	1·359	— 1·359	3 Consecutive Transits of *o* Octantis	+ 0·183		T
July 1	1·347					T
1	1·369	— 1·357	3 Consecutive Transits of * Octantis	+ 0·180	+ 0·182	W
1	1·355					W
2	1·358					T
2	1·350	— 1·354				T
3	1·360		4 Consecutive Transits of *o* Octantis	+ 0·200		T
3	1·382					W
3	1·406	— 1·395				W
3	— 1·431		8 Consecutive Transits of * Octantis	+ 0·196	+ 0·198	T

TABLE III.—*Continued.*

Level and Azimuthal Errors of the Transit-circle, 1856.

Day.	Level Error. Observed.	Level Error. Adopted.	Determining Stars for Azimuthal Error.	Azimuthal Error. Observed.	Azimuthal Error. Adopted.	Observer.
	s	s		s	s	
July 4	−1·349					T
4	1·347	−1·348				T
5	1·358					T
5	1·360					T
5	1·357	−1·360				W
5	1·371					W
5	1·355					T
6	1·342					T
6	1·350	−1·346				T
7	1·387					T
8	1·352		2 Consecutive Transits of * Octantis	+0·180	+0·180	T
8	1·358	−1·360				W
8	1·353					W
8	1·348					T
10	1·340					W
10	1·334	−1·337				T
11	1·339	−1·339				T
12	1·376				+0·222	W
12	1·379	−1·378				W
16	1·400					W
18		−1·400	4 Consecutive Transits of ε Octantis	+0·222		
19						
21	1·396	−1·396				T
22	1·407					T
22	1·407	−1·407			+0·217	T
23	1·406		3 Consecutive Transits of ε Octantis	+0·217		W
23	−1·355	−1·381				T
29	+0·153					T
30	0·155	+0·154	2 Consecutive Transits of ε Octantis	+0·239	+0·239	T
Aug. 1	0·146					T
1	0·144	+0·145	8 Consecutive Transits of ρ Octantis	+0·240		T
2	0·137					T
2	0·127	+0·132	7 Consecutive Transits of ε Octantis	+0·263		T
3	0·139					T
3	0·141	+0·140	6 Consecutive Transits of γ Hydri ...	+0·239	+0·253	T
4	0·104					G
4	+0·117	+0·112				G

July 27, the west-end of the axis was raised by placing three laminæ of tin-foil between the Y bearing and its foundation-plate.

TABLE III.—*Continued.*

Level and Azimuthal Errors of the Transit-circle, 1856.

Day.	Level Error. Observed.	Level Error. Adopted.	Determining Stars for Azimuthal Error.	Azimuthal Error. Observed.	Azimuthal Error. Adopted.	Observer.
	s	s		s	s	
Aug. 5	+ 0·107	+ 0·107				G
8	·088					T
8	·096	+ 0·092				T
10	·077					T
10	·084	+ 0·081				T
11	·057					G
12	·061	+ 0·059				G
13	·053	+ 0·053			+ 0·223	W
14	·078		2 Consecutive Transits of ρ Octantis	+ 0·238		W
14	·080	+ 0·079				W
15	·116		4 Consecutive Transits of γ Hydri...	+ 0·208		T
15	·111	+ 0·114				T
16	·106					T
16	·095	+ 0·102	4 Consecutive Trans. of B.A.C. 5412	+ 0·187		T
16	·105		3 Consecutive Transits of δ Mensæ...	+ 0·166		T
17	·106	+ 0·106			+ 0·182	T
18	·096					G
18	·100	+ 0·098				G
20	·116					W
20	·115	+ 0·116				W
22	·112					T
22	·116	+ 0·114	5 Consecutive Transits of δ Mensæ...	+ 0·213		T
23	·119				+ 0·218	T
23	·112	+ 0·116	3 Consecutive Trans. of B.A.C. 5412	+ 0·223		T
24	·110					T
27	·110	+ 0·110				W
29	·107		3 Consecutive Transits of β Apodis	+ 0·251		T
29	·104	+ 0·106			+ 0·251	T
30	·106					T
Sept. 1	·116					G
3	·121	+ 0·116				W
4	·111		σ Octantis and μ^1 Sagittarii	+ 0·202		W
5	·140	+ 0·140	2 Consecutive Trans. of B.A.C. 1587	+ 0·271		T
6	·139		σ Octantis and μ^1 Sagittarii	+ 0·269		T
6	·145	+ 0·142	σ Octantis and μ^1 Sagittarii	+ 0·207		T
7	·144	+ 0·144			+ 0·228	T
8	·140	+ 0·140	σ Octantis and μ^1 Sagittarii	+ 0·189		T
10	+ 0·151	+ 0·151				G
						W

TABLE III.—*Continued.*

Level and Azimuthal Errors of the Transit-circle, 1856.

Day.	Level Error. Observed.	Level Error. Adopted.	Determining Stars for Azimuthal Error.	Azimuthal Error. Observed.	Azimuthal Error. Adopted.	Observer.
	s	s		s	s	
Sept. 11	+ 0·154		2 Consecutive Trans. of B.A.C. 5936	+ 0·220	+ 0·220	W
11	·167	+ 0·161				W
12	·168	+ 0·168				T
13	·162					T
13	·162	+ 0·163				T
13	·164					T
14	·170	+ 0·170			+ 0·244	T
15	·173					G
15	·176	+ 0 175	4 Consecutive Transits of σ Octantis	+ 0·247		G
16	·165		4 Consecutive Trans. of B.A.C. 5936	+ 0·237		G
16	·168	+ 0·167				G
18	·158					W
19	·144	+ 0·151	2 Consecutive Transits of σ Octantis	+ 0·222		T
20	·150					T
21	·148					T
21	·138	+ 0·143			+ 0·222	T
22	·106					G
23	·141	+ 0·124				G
24	·138					W
25	·129	+ 0·134				W
26	·132					T
26	·127	+ 0·130				T
26	·118					T
27	·104	+ 0·111				T
Oct. 1	·148		B Octan., α^2 Capricorni, & β Aquarii	+ 0·185	+ 0·211	W
2	·135	+ 0·142				W
3	·130		B Octan. with α^2 Capric., & β Aquarii	+ 0·226		W
4	·138	+ 0·134				T
6	·115	+ 0·115	B Octantis, Altair, and α^2 Capricorni	+ 0·223		G
8	·127	+ 0·127				T
9	·134	+ 0·134	B Octantis, Altair, and β Aquilæ ...	+ 0·189		T
10	·146	+ 0·146	B Octantis and ε Pegasi	+ 0·171		W
11	·166	+ 0·166	B Octantis and α^2 Capricorni	+ 0·259		W
12	·163					T
14	·217	+ 0·190	B Octantis and α^2 Capricorni	+ 0·273		G
15	·204					W
16	+ 0·193	+ 0·197				W

TABLE III.—*Concluded.*

Level and Azimuthal Errors of the Transit-circle, 1856.

Day.	Level Error. Observed.	Level Error. Adopted.	Determining Stars for Azimuthal Error.	Azimuthal Error. Observed.	Azimuthal Error. Adopted.	Observer.
	s	s		s	s	
Oct. 18	+ 0·195	+ 0·195				T
20	·185					G
25	·203	+ 0·194				T
31	·249				+ 0·223	W
Nov. 1	·212	+ 0·231				T
5	·162					W
6	·158					W
9	·163	+ 0·163				T
10	·170					G
11	·171					G
12	·176	+ 0·173				W
13	·173					W
14	·185	+ 0·176				T
15	·167					T
16	·180	+ 0·180				T
17	·184	+ 0·183				G
17	·179					T
18	·189	+ 0·189			+ 0·123	T
19	·200	+ 0·200				T
20	·200	+ 0·200				T
24	·220	+ 0·220				T
Dec. 3	·186	+ 0·186				T
7	·220	+ 0·220				T
8	·213	+ 0·220				T
9	·228					T
13	·227					W
14	·218	+ 0·222			+ 0·123	G
15	·222					W
19	·194	+ 0·194	σ Octantis S.P. and α Arcturus ...	+ 0·140		T
20	·164	+ 0·164				T
21	·136	+ 0·136				T
24	+ 0·127	+ 0·127	σ Octantis S.P., Aldebaran and Rigel	+ 0·105		T

TABLE IV.

Errors and Rates of the Transit-clock during the year 1856.

Day, 1856.	Observer.	Sidereal Time of Mean of Group.	Clock-slow Corresponding to Mean of Group.	Adopted Losing Rate.	Day, 1856.	Observer.	Sidereal Time of Mean of Group.	Clock-slow Corresponding to Mean of Group.	Adopted Losing Rate.
		h m	s	s			h m	s	s
Jan. 1	T	13 17	+ 42·20	+ 0·33	Feb. 5	G	2 12	+ 48·14	— 0·00
2	T	14 48	42·55	0·39	7	G	8 1	48·00	+ 0·02
3	T	14 48	42·99	0·39	7	W	12 51	48·09	0·02
4	T	5 47	43·24	0·27	7	G	19 43	48·14	0·02
4	T	16 20	43·35	0·27	8	W	13 22	48·11	0·05
6	G	15 56	44·00	0·17	9	G	8 1	48·18	0·00
7	G	5 35	44·04	0·14	11	G	3 10	47·92	0·00
7	W	10 10	44·04	0·14	12	G	6 18	48·01	0·30
7	G	16 20	44·15	0·14	12	W	12 58	48·09	0·30
8	G	5 26	44·16	0·23	12	G	19 43	48·19	0·30
8	W	10 33	44·18	0·23	13	T	3 59	48·39	0·37
9	G	1 9	44·49	0·24	13	G	6 18	48 44	0·37
9	W	10 33	44·50	0·24	13	W	13 15	48·46	0·37
10	G	1 9	44·58	0·15	14	T	4 48	48·46	0·37
10	W	10 57	44·69	0·15	14	G	6 18	48·77	0·37
10	G	16 20	44·58	0·10	14	W	12 33	48·83	0·37
11	G	10 52	44·79	0·25	15	G	2 12	49·05	0·24
14	G	5 26	45·44	0·12	15	T	5 55	48·79	0·24
14	W	10 10	45·54	0·12	15	W	13 9	49·12	0·24
15	T	2 58	45·33	0·13	15	T	19 43	49·14	0·24
15	G	5 26	45·53	0·13	16	G	6 50	49·29	0·31
18	G	5 36	46·30	0·32	16	W	13 28	49·42	0·31
18	W	11 46	46·41	0·32	17	G	7 45	49·62	0·38
19	G	1 4	46·58	0·22	18	G	7 49	50·08	0·40
19	T	6 32	46·32	0·22	19	G	8 30	50·42	0·57
20	T	6 45	46·44	0·15	20	G	8 1	51·10	0·45
22	G	16 2	47·16	0·08	21	G	12 4	51·33	0·10
24	W	10 57	47·10	0·05	21	W	13 59	51·39	0·10
25	G	5 27	47·16	0·07	22	G	5 47	51·33	0·12
25	W	11 42	47·21	0·06	22	W	12 24	51·45	0·12
26	G	8 58	47·23	0·11	25	G	7 26	51·77	0·25
27	G	13 3	47·48	0·13	25	T	17 12	51·75	0·25
28	G	9 24	47·53	0·00	26	G	7 26	52·04	0·23
29	G	9 57	47·46	0·04	26	T	15 1	52·02	0·23
30	G	11 17	47·61	0·17	27	G	7 26	52·31	0·27
31	G	10 47	47·80	0·27	27	T	16 20	52·12	0·27
Feb. 1	G	9 4	48·12	0·20	28	G	4 42	52·53	0·30
2	G	5 27	48·17	+ 0·02	28	T	16 46	52·56	0·30
3	G	2 12	+ 48·16	— 0·01	29	G	3 32	+ 52·87	+ 0·33

TABLE IV.—*Continued.*

Errors and Rates of the Transit-clock during the year 1856.

Day, 1856.	Observer.	Sidereal Time of Mean of Group.	Clock-slow Corresponding to Mean of Group	Adopted Losing Rate.	Day, 1856.	Observer.	Sidereal Time of Mean of Group.	Clock-slow Corresponding to Mean of Group	Adopted Losing Rate.
		h m	s	s			h m	s	s
Feb. 29	T	17 14	+ 52·72	+ 0·33	April 3	T	2 9	+ 59·19	+ 0·07
March 1	G	8 6	53·30	0·31	3	G	8 0	59·32	0·07
1	T	18 11	53·16	0·31	3	W	13 9	59·27	0·07
4	G	8 6	53·99	0·18	7	G	10 14	0·13	0·52
6	G	6 52	54·29	0·13	7	G	22 50	0·32	0·52
7	G	8 6	54·38	0·06	8	G	10 14	0·65	0·59
8	G	8 6	54·42	0·02	8	T	21 24	0·66	0·59
10	G	2 40	54·49	0·09	9	T	5 27	0·93	0·51
12	G	8 6	54·76	0·30	10	G	10 14	1·61	0·19
13	G	8 6	55·27	0·35	11	T	7 19	1·38	0·20
14	G	7 13	55·46	0·22	11	G	8 1	1·93	0·20
15	G	6 15	55·70	0·28	13	T	9 6	2·14	0·30
16	T	8 1	55·78	0·23	14	T	1 59	2·30	0·30
16	W	13 2	55·98	0·23	14	G	8 51	2·62	0·30
17	G	8 49	56·19	0·15	15	G	11 1	3·03	0·52
17	W	22 49	56·12	0·15	16	T	3 37	3·21	0·62
18	T	9 47	55·99	0·15	16	T	22 57	3·63	0·59
19	T	7 11	56·22	0·12	17	G	9 20	4·14	0·67
20	T	12 12	56·21	0·10	17	T	10 16	4·00	0·67
21	G	22 49	56·90	0·15	19	T	13 39	5·75	0·60
23	T	21 36	56·85	0·23	20	T	14 20	6·26	0·51
24	G	9 20	57·32	0·28	20	G	0 36	7·08	0·51
24	T	14 10	57·09	0·28	21	T	14 49	6·89	0·68
24	G	22 49	57·49	0·28	22	T	16 6	7·67	0·47
26	T	3 29	57·37	0·30	22	G	0 36	8·17	0·36
27	T	3 10	57·73	0·40	23	T	17 16	7·88	0·36
27	G	10 13	58·06	0·40	23	G	1 17	8·28	0·54
27	T	20 48	58·05	0·30	24	G	16 33	8·65	0·54
28	T	5 29	58·23	0·17	24	T	23 43	8·54	0·54
28	G	10 13	58·42	0·17	25	G	9 20	9·13	0·54
28	W	13 17	58·43	0·17	25	G	20 11	9·30	0·54
28	T	19 55	58·21	0·25	26	G	9 20	9·73	0·69
29	W	13 17	58·60	0·22	26	T	20 0	9·56	0·69
29	T	19 19	58·54	0·22	27	T	6 53	10·09	0·81
30	T	19 53	58·64	0·13	28	T	2 16	10·68	0·81
30	G	22 49	58·88	0·13	28	G	9 20	11·20	0·81
April 1	G	12 26	59·04	0·17	29	G	9 37	11·95	0·68
1	W	13 17	59·17	0·17	29	T	22 49	11·97	0·62
1	T	21 57	+ 58·96	+ 0·17	30	G	10 28	+ 12·59	+ 0·43

TABLE IV.

Errors and Rates of the Transit-clock during the year 1856.

Day, 1856.	Observer.	Sidereal Time of Mean of Group.	Clock-slow Corresponding to Mean of Group.	Adopted Losing Rate.	Day, 1856.	Observer.	Sidereal Time of Mean of Group.	Clock-slow Corresponding to Mean of Group.	Adopted Losing Rate.
		h m	s	s			h m	s	s
May 1	G	6 22	+ 12·79	+ 0·34	June 3	W	14 25	+ 15·80	+ 0·33
1	T	0 21	12·65	0·44	4	T	5 7	15·77	0·39
2	G	9 20	13·28	0·34	4	T	23 51	15·67	0·39
2	G	0 36	13·47	0·13	5	W	14 53	16·20	0·18
3	T	6 20	13·37	0·13	6	T	5 45	16·04	0·18
3	G	11 12	13·63	0·13	6	G	14 45	16·25	+ 0·06
5	T	5 56	13·67	0·20	6	G	4 27	16·57	− 0·05
5	G	11 19	13·94	0·20	7	T	11 29	16·12	0·05
6	G	4 58	14·09	0·14	7	W	14 10	16·32	0·05
7	T	4 36	13·91	0·12	7	T	0 1	16·25	0·06
7	T	0 36	13·91	0·12	8	T	12 2	16·09	0·06
8	W	11 49	14·22	0·12	9	T	10 25	16·28	0·06
8	T	2 44	14·09	0·22	9	G	14 42	16·20	0·06
10	T	11 12	14·48	0·22	10	T	11 48	15·97	0·06
11	T	10 12	14·37	+ 0·03	10	W	14 15	16·16	0·06
12	T	3 59	14·39	0·00	11	T	9 6	15·90	0·10
12	G	11 25	14·68	0·00	11	G	15 32	15·98	0·10
13	W	11 46	14·57	− 0·06	11	T	23 42	15·82	− 0·10
14	G	10 39	14·56	− 0·01	13	G	8 27	16·35	+ 0·15
16	T	4 25	14·40	− 0·02	13	G	4 27	16·46	− 0·04
16	G	13 3	14·51	− 0·02	14	W	14 4	16·20	− 0·04
20	W	13 57	14·40	+ 0·11	15	W	11 12	16·24	+ 0·05
21	T	5 55	14·35	0·16	15	G	15 20	16·24	0·05
21	G	15 27	14·56	0·16	15	W	23 32	16·35	0·05
21	T	3 28	14·51	0·11	16	G	12 47	16·29	0·08
22	W	15 1	14·71	+ 0·11	17	T	11 35	16·31	0·06
23	G	16 6	14·77	− 0·07	17	W	14 0	16·31	0·06
23	T	21 37	14·46	0·07	19	W	15 47	16·43	0·03
24	W	12 52	14·60	− 0·12	21	W	13 17	16·48	0·02
27	W	13 24	14·45	+ 0·09	22	T	5 36	16·17	0·02
27	T	3 6	14·39	0·19	23	G	15 57	16·03	0·02
28	G	12 58	14·37	0·19	26	T	1 24	16·32	0·05
29	W	11 49	14·82	0·17	27	G	3 51	16·55	0·21
30	G	12 47	14·80	0·20	27	T	5 16	16·44	0·21
30	T	23 32	14·78	0·20	28	W	15 56	16·62	0·21
31	W	14 3	15·05	0·29	29	T	4 27	16·76	0·27
June 1	T	2 8	15·39	0·26	30	G	15 28	17·13	0·27
2	G	13 35	15·52	0·26	30	T	4 25	17·06	0·27
3	T	5 7	+ 15·69	+ 0·33	July 1	W	16 5	+ 17·28	+ 0·31

TABLE IV.—*Continued.*

Errors and Rates of the Transit-clock during the year 1856.

Day, 1856.	Observer.	Sidereal Time of Mean of Group.	Clock-slow Corresponding to Mean of Group.	Adopted Losing Rate.	Day, 1856.	Observer.	Sidereal Time of Mean of Group.	Clock-slow Corresponding to Mean of Group.	Adopted Losing Rate.
		h m	s	s			h m	s	s
July 2	G	17 28	+ 17·65	+ 0·32	Aug. 11	G	17 27	+ 23·93	— 0·18
3	T	9 18	17·75	0·32	12	G	16 20	23·61	— 0·16
3	W	17 13	17·93	0·32	13	W	5 10	23·63	+ 0·01
4	T	9 38	18·10	0·27	14	W	20 37	23·64	0·11
4	T	3 13	18·22	0·26	15	T	1 11	23·63	0·16
4	G	5 7	18·47	0·26	16	T	1 36	23·76	+ 0·10
5	T	14 9	18·37	0·26	17	T	19 48	23·80	— 0·01
5	T	1 59	18·38	0·33	18	G	22 44	23·97	+ 0·08
6	T	2 44	18·88	0·54	19	G	15 9	24·18	0·09
7	G	12 28	19·36	0·54	19	G	6 53	24·23	0·09
7	T	4 34	19·47	0·46	20	W	0 10	24·21	+ 0·03
10	T	8 12	19·98	0·32	22	T	5 26	24·19	— 0·01
10	T	4 7	20·31	0·30	23	T	1 4	24·07	0·01
10	G	6 53	20·49	0·30	24	T	16 50	23·84	0·18
11	T	14 43	20·27	0·30	27	W	5 34	23·83	— 0·04
11	G	20 10	20·66	0·30	29	T	0 3	23·64	0·00
11	T	5 14	20·57	0·15	30	T	18 51	23·65	0·00
12	W	15 16	20·90	0·15	Sept. 3	W	0 52	24·18	+ 0·21
14	G	16 57	20·88	0·01	4	W	2 44	24·48	0·31
16	T	5 26	20·71	0·10	5	T	23 32	24·54	0·28
17	T	5 28	20·85	0·18	6	T	17 57	24·71	+ 0·12
18	G	19 44	21·21	0·18	7	T	17 13	24·73	— 0·02
18	T	5 28	21·06	0·18	8	G	18 20	24·92	0·07
19	G	14 43	21·38	0·14	9	G	5 33	24·81	0·02
19	T	5 37	21·20	+ 0·09	10	W	20 39	24·85	0·02
21	T	13 48	21·16	— 0·02	11	W	20 39	24·83	— 0·04
22	T	22 41	21·14	+ 0·08	13	T	19 35	24·44	+ 0·04
23	W	14 56	21·70	0·08	14	T	16 6	24·57	+ 0·11
23	T	3 33	21·30	0·06	15	G	21 35	24·90	0·00
27	T	4 27	21·31	0·07	16	G	22 59	24·83	— 0·10
29	T	8 0	21·59	0·13	18	W	4 48	24·47	0·00
Aug. 2	T	9 30	22·01	0·17	19	T	8 49	24·42	+ 0·06
2	T	3 41	22·17	0·17	20	T	11 11	24·37	— 0·08
3	T	6 39	22·50	0·23	21	T	7 12	24·28	0·15
4	G	3 13	22·90	0·28	22	G	19 21	24·38	0·15
5	G	16 20	23·11	0·28	23	G	23 11	24·25	— 0·02
8	T	17 13	23·35	0·27	24	W	19 6	24·32	+ 0·05
8	T	6 5	23·43	0·27	25	W	1 29	24·35	+ 0·05
10	T	1 7	+ 23·70	+ 0·06	26	T	20 38	+ 24·17	— 0·02

TABLE IV.—*Concluded.*

Errors and Rates of the Transit-clock during the year 1856.

Day, 1856.	Observer.	Sidereal Time of Mean of Group.	Clock-slow Corresponding to Mean of Group.	Adopted Losing Rate.	Day, 1856.	Observer	Sidereal Time of Mean of Group.	Clock-slow Corresponding to Mean of Group.	Adopted Losing Rate.
		h m	s	s			h m	s	s
Sept. 27	T	20 38	+ 24·04	— 0·15	Nov. 6	W	20 58	+ 23·45	+ 0·09
Oct. 1	W	22 37	23·57	+ 0·04	6	W	14 9	23·51	— 0·03
2	W	21 40	23·64	0·04	9	T	0 55	23·18	0·03
3	W	20 13	23·65	0·07	10	G	22 26	23·37	0·03
4	T	19 35	23·53	0·09	11	G	1 59	23·33	— 0·03
6	G	21 30	23·81	+ 0·05	12	W	6 2	23·30	+ 0·15
8	T	19 53	23·31	— 0·11	13	W	7 3	23·48	+ 0·10
9	T	19 16	23·16	— 0·11	15	T	3 11	23·25	— 0·05
10	W	21 40	23·20	0·00	16	T	13 17	23·12	0·11
11	W	22 43	23·18	+ 0·01	17	G	9 18	23·25	— 0·10
12	T	23 58	23·16	0·10	18	T	11 27	22·91	0·00
14	G	22 10	23·33	0·10	19	T	10 6	22·99	+ 0·06
15	W	3 13	23·61	0·15	20	T	12 8	23·03	— 0·06
16	W	4 10	23·74	0·09	21	G	15 15	23·10	— 0·07
20	G	20 58	23·57	+ 0·05	23	G	14 9	23·12	+ 0·02
22	W	2 30	23·80	— 0·04	Dec. 3	T	21 24	23·94	+ 0·11
23	W	23 47	23·66	0·13	7	T	14 9	24·43	— 0·10
26	G	13 17	23·44	0·07	8	T	2 57	24·35	— 0·06
28	G	13 17	23·35	0·02	10	G	5 52	24·63	0·00
30	W	5 18	23·23	— 0·02	13	W	7 51	24·57	0·00
Nov. 2	T	14 9	23·00	0·00	14	G	16 20	24·33	+ 0·08
3	W	14 9	23·26	+ 0·04	15	W	9 24	24·58	+ 0·15
5	W	20 59	+ 23·34	+ 0·09	20	T	14 9	+ 24·04	— 0·15

Determination of the Personal Equations of the Transit-observers for Eye and Ear Observations.

T.—W.				T.—G.				W.—G.			
Day, 1856.		Interval.	Excess of Clock-slow.	Day, 1856.		Interval.	Excess of Clock-slow.	Day, 1856.		Interval.	Excess of Clock-slow.
		h	s			h	s			h	s
Feb.	15	7	— 0·26	Jan.	15	2	— 0·19	Jan.	7	5	— 0·03
May	8	13	— 0·27		19	5	— 0·31		8	5	— 0·03
	22	12	— 0·14	Feb.	14	2	— 0·28		9	9	— 0·09
	27	14	— 0·14		15	4	— 0·30		10	10	+ 0·05
June	5	15	— 0·27		26	8	— 0·09		14	5	+ 0·08
	10	2	— 0·20		28	9	— 0·12		18	6	+ 0·02
	27	11	— 0·09		28	11	— 0·17		25	6	+ 0·04
	30	12	— 0·08	March	28	5	— 0·16	Feb.	7	2	+ 0·02
July	2	8	— 0·07	April	14	7	— 0·23		12	7	0·00
	11	10	— 0·26		17	1	— 0·16		13	7	— 0·08
Sept.	4	13	— 0·23		24	7	— 0·27		14	6	— 0·03
				May	5	5	— 0·23		16	7	+ 0·05
					12	7	— 0·23		21	2	+ 0·05
					16	9	— 0·12	Sept.	9	13	+ 0·01
					21	10	— 0·15				
					21	12	— 0·12				
				June	11	6	— 0·11				
					11	8	— 0·13				
				July	6	10	— 0·26				
					17	14	— 0·25				
					18	9	— 0·22				
					21	12	— 0·17				

From these we have,

	s
T. — W. =	— 0·19
T. — G. =	— 0·19
W. — G. =	0·00

TABLE V.

Errors of Division for every 5°: (1 *rev.* = 60″.)

Division.	Excess of Reading.	Division.	Excess of Reading.	Division.	Excess of Reading.	Division.	Excess of Reading.
°	rev.	°	rev.	°	rev.	°	rev.
0	0·0908	90	0·0810	180	0·0403	270	0·0081
5	·0678	95	·0874	185	·0472	275	·0150
10	·0710	100	·0845	190	·0441	280	·0306
15	·0895	105	·0827	195	·0484	285	·0280
20	·0847	110	·0888	200	·0447	290	·0231
25	·0764	115	·0674	205	·0330	295	·0034
30	·0605	120	·0395	210	·0380	300	·0277
35	·0632	125	·0172	215	·0460	305	·0365
40	·0845	130	·0000	220	·0551	310	·0380
45	·0899	135	·0198	225	·0541	315	·0423
50	·0784	140	·0195	230	·0406	320	·0319
55	·0812	145	·0228	235	·0460	325	·0763
60	·0799	150	·0241	240	·0356	330	·0737
65	·0774	155	·0273	245	·0107	335	·0703
70	·0824	160	·0266	250	·0332	340	·0447
75	·0895	165	·0403	255	·0366	345	·0479
80	·0947	170	·0422	260	·0426	350	·0874
85	·0888	175	·0455	265	·0242	355	·0916

TABLE VI.

Correction for Division Error and Flexure, for the Mean of the Six Microscopes.

(ALWAYS ADDITIVE.)

Pointer Reading.	Correction.	Pointer Reading.	Correction.	Pointer Reading.	Correction.	Pointer Reading.	Correction.	Pointer Reading.	Correction.	Pointer Reading.	Correction.	Pointer Reading.	Correction.
°	′	°	′	°	′	°	′	°	′	°	′	°	′
0	1·01	39	1·03	78	0·07	117	0·56	156	1·16	195	0·50	234	0·86
1	0·95	40	1·01	79	0·04	118	0·63	157	1·14	196	0·47	235	0·86
2	0·90	41	0·89	80	0·00	119	0·71	158	1·13	197	0·44	236	0·93
3	0·85	42	0·77	81	0·05	120	0·78	159	1·11	198	0·41	237	1·01
4	0·80	43	0·65	82	0·10	121	0·74	160	1·09	199	0·38	238	1·08
5	0·75	44	0·53	83	0·15	122	0·69	161	0·97	200	0·35	239	1·16
6	0·71	45	0·42	84	0·20	123	0·65	162	0·86	201	0·40	240	1·23
7	0·67	46	0·43	85	0·25	124	0·60	163	0·75	202	0·46	241	1·19
8	0·63	47	0·44	86	0·29	125	0·56	164	0·64	203	0·51	242	1·14
9	0·59	48	0·46	87	0·34	126	0·53	165	0·53	204	0·57	243	1·10
10	0·56	49	0·47	88	0·38	127	0·49	166	0·55	205	0·62	244	1·05
11	0·52	50	0·48	89	0·42	128	0·46	167	0·57	206	0·67	245	1·01
12	0·48	51	0·47	90	0·46	129	0·43	168	0·59	207	0·71	246	0·97
13	0·44	52	0·46	91	0·58	130	0·40	169	0·61	208	0·76	247	0·94
14	0·40	53	0·45	92	0·69	131	0·37	170	0·64	209	0·81	248	0·91
15	0·37	54	0·44	93	0·81	132	0·34	171	0·63	210	0·85	249	0·88
16	0·33	55	0·43	94	0·92	133	0·31	172	0·63	211	0·97	250	0·85
17	0·29	56	0·50	95	1·03	134	0·28	173	0·63	212	1·09	251	0·81
18	0·25	57	0·57	96	1·01	135	0·25	174	0·63	213	1·21	252	0·78
19	0·21	58	0·64	97	0·99	136	0·22	175	0·62	214	1·32	253	0·75
20	0·17	59	0·71	98	0·97	137	0·19	176	0·70	215	1·44	254	0·72
21	0·21	60	0·78	99	0·94	138	0·15	177	0·78	216	1·42	255	0·68
22	0·26	61	0·73	100	0·92	139	0·12	178	0·85	217	1·40	256	0·65
23	0·31	62	0·68	101	0·80	140	0·09	179	0·93	218	1·38	257	0·62
24	0·35	63	0·63	102	0·69	141	0·14	180	1·01	219	1·36	258	0·58
25	0·40	64	0·58	103	0·58	142	0·20	181	0·96	220	1·34	259	0·55
26	0·44	65	0·53	104	0·46	143	0·25	182	0·92	221	1·23	260	0·51
27	0·48	66	0·50	105	0·35	144	0·31	183	0·88	222	1·12	261	0·56
28	0·52	67	0·46	106	0·37	145	0·36	184	0·84	223	1·01	262	0·62
29	0·55	68	0·43	107	0·38	146	0·41	185	0·79	224	0·90	263	0·67
30	0·59	69	0·39	108	0·40	147	0·45	186	0·76	225	0·78	264	0·72
31	0·70	70	0·36	109	0·42	148	0·50	187	0·73	226	0·80	265	0·77
32	0·81	71	0·32	110	0·44	149	0·55	188	0·70	227	0·82	266	0·81
33	0·92	72	0·29	111	0·43	150	0·59	189	0·68	228	0·84	267	0·86
34	1·03	73	0·25	112	0·43	151	0·71	190	0·65	229	0·86	268	0·90
35	1·14	74	0·22	113	0·42	152	0·83	191	0·62	230	0·88	269	0·94
36	1·12	75	0·18	114	0·42	153	0·95	192	0·59	231	0·88	270	0·98
37	1·09	76	0·15	115	0·41	154	1·07	193	0·56	232	0·87	271	1·10
38	1·06	77	0·11	116	0·48	155	1·18	194	0·53	233	0·87	272	1·21

TABLE VI.—*Concluded.*

Correction for Division Error and Flexure, for the Mean of the Six Microscopes.

(ALWAYS ADDITIVE.)

Pointer Reading.	Correction.	Pointer Reading.	Correction.	Pointer Reading.	Correction.	Pointer Reading.	Correction.	Pointer Reading.	Correction.	Pointer Reading.	Correction.	Pointer Reading.	Correction.
°	′	°	′	°	′	°	′	°	′	°	′	°	′
273	1·33	286	0·87	299	1·16	312	0·73	325	0·66	338	1·32	351	0·71
274	1·44	287	0·88	300	1·23	313	0·69	326	0·70	339	1·29	352	0·70
275	1·55	288	0·90	301	1·18	314	0·65	327	0·74	340	1·26	353	0·69
276	1·53	289	0·91	302	1·13	315	0·62	328	0·78	341	1·14	354	0·68
277	1·50	290	0·92	303	1·08	316	0·58	329	0·81	342	1·02	355	0·67
278	1·48	291	0·92	304	1·03	317	0·54	330	0·85	343	0·91	356	0·74
279	1·46	292	0·91	305	0·98	318	0·50	331	0·96	344	0·79	357	0·80
280	1·43	293	0·90	306	0·95	319	0·46	332	1·07	345	0·67	358	0·87
281	1·31	294	0·89	307	0·91	320	0·42	333	1·18	346	0·68	359	0·94
282	1·20	295	0·88	308	0·87	321	0·47	334	1·29	347	0·69		
283	1·08	296	0·95	309	0·84	322	0·52	335	1·40	348	0·70		
284	0·97	297	1·02	310	0·80	323	0·56	336	1·38	349	0·71		
285	0·85	298	1·09	311	0·76	324	0·61	337	1·35	350	0·73		

TABLE VII.

Runs of each Microscope-Micrometer of the Transit-circle, or the number of Revolutions corresponding to an Arc of 5′, observed in 1856.

Day, 1856.		Pointer Reading.	Runs of Microscope-Micrometers.						Sum of Runs.
			A	B	C	D	E	F	
		°	r	r	r	r	r	r	r
January	6	250	4·803	4·806	4·804	4·838	4·813	4·807	28·871
		270	·800	·815	·813	·825	·822	·804	·879
		290	·806	·810	·810	·824	·812	·813	·875
	13	310	4·807	4·813	4·806	4·822	4·817	4·821	28·886
		330	·802	·813	·800	·824	·815	·820	·874
		350	·808	·817	·804	·833	·827	·812	·901
	20	10	4·825	4·821	4·815	4·827	4·814	4·807	28·909
		30	·813	·818	·813	·829	·823	·812	·908
		50	·819	·818	·807	·827	·816	·816	·903
	27	70	4·801	4·806	4·807	4·822	4·813	4·804	28·853
		90	·803	·824	·816	·820	·819	·816	·898
		110	·800	·813	·795	·823	·820	·811	·862
February	5	0	4·802	4·810	4·821	4·793	4·823	4·810	28·859
		10	·804	·818	·815	·826	·824	·811	·898
		20	·800	·816	·811	·823	·813	·804	·867
	10	30	4·805	4·824	4·801	4·825	4·833	4·810	28·898
		40	·801	·819	·803	·830	·816	·814	·883
		50	·809	·814	·809	·828	·825	·823	·908
	17	60	4·816	4·812	4·809	4·828	4·817	4·823	28·905
		70	·799	·822	·802	·833	·823	·815	·894
		80	·806	·822	·813	·823	·812	·809	·885
	24	90	4·795	4·827	4·808	4·832	4·812	4·809	28·883
		100	·793	·819	·806	·822	·819	·811	·870
		110	·804	·816	·810	·832	·831	·816	·909
	26	120	4·812	4·815	4·819	4·833	4·823	4·795	28·897
		130	·798	·822	·807	·826	·822	·812	·887
		140	·793	·821	·812	·818	·820	·813	·877
March	3	150	4·794	4·822	4·804	4·820	4·808	4·820	28·868
		160	·821	·813	·808	·825	·820	·825	·912
		170	·813	·823	·823	·828	·798	·821	·906
	10	180	4·784	4·818	4·807	4·835	4·819	4·798	28·861
		190	·806	·814	·813	·824	·820	·811	·888
		200	·807	·808	·810	·825	·822	·817	·889
	18	210	4·824	4·810	4·820	4·828	4·818	4·827	28·927
		220	·797	·825	·800	·819	·802	·809	·852
		230	·807	·811	·809	·824	·824	·809	·884

TABLE VII.—*Continued.*

Runs of each Microscope-Micrometer of the Transit-circle or the number of Revolutions corresponding to an Arc of 5′, observed in 1856.

Day, 1856.		Pointer Reading.	Runs of Microscope-Micrometers.						Sum of Runs.
			A	B	C	D	E	F	
		°	r	r	r	r	r	r	r
March	24	240	4·796	4·830	4·798	4·837	4·840	4·809	28·910
		250	·804	·818	·820	·832	·817	·820	·911
		260	·788	·820	·808	·811	·821	·815	·863
	30	270	4·799	4·829	4·822	4·822	4·816	4·804	28·892
		280	·809	·809	·815	·817	·813	·807	·870
		290	·799	·821	·810	·815	·816	·829	·890
April	6	300	4·814	4·806	4·827	4·834	4·825	4·837	28·943
		310	·788	·823	·803	·825	·822	·805	·866
		320	·805	·813	·810	·812	·817	·816	·873
	13	330	4·806	4·820	4·816	4·831	4·816	4·811	28·900
		340	·802	·825	·814	·822	·814	·812	·889
		350	·815	·822	·816	·833	·821	·821	·928
	20	0	4·795	4·820	4·794	4·817	4·814	4·815	28·855
		10	·812	·813	·809	·824	·812	·817	·887
		20	·803	·828	·814	·822	·811	·826	·904
	27	30	4·800	4·818	4·817	4·836	4·816	4·819	28·906
		40	·811	·812	·810	·822	·820	·809	·884
		50	·805	·826	·803	·831	·823	·812	·900
May	3	60	4·821	4·820	4·818	4·822	4·816	4·821	28·918
		70	·808	·805	·811	·830	·819	·819	·892
		80	·819	·822	·804	·828	·827	·819	·919
	11	90	4·817	4·802	4·816	4·835	4·804	4·826	28·900
		100	·809	·819	·813	·827	·822	·814	·904
		110	·801	·831	·811	·825	·824	·801	·893
	18	120	4·819	4·808	4·818	4·829	4·815	4·831	28·920
		130	·804	·828	·810	·815	·814	·809	·880
		140	·811	·817	·818	·822	·821	·822	·911
		150	·790	·823	·797	·826	·826	·805	·867
		160	·800	·833	·812	·824	·825	·815	·909
		170	·808	·822	·812	·820	·811	·814	·887
		180	·794	·828	·811	·815	·828	·808	·884
		190	·807	·819	·810	·820	·824	·809	·889
		200	·802	·819	·810	·820	·817	·816	·884
June	8	210	4·813	4·820	4·821	4·829	4·823	4·817	28·923
		220	·794	·821	·802	·828	·814	·813	·872
		230	·805	·814	·804	·836	·824	·816	·899

TABLE VII.—*Continued.*

Runs of each Microscope-Micrometer of the Transit-circle, or the number of Revolutions corresponding to an Arc of 5′, observed in 1856.

Day, 1856.		Pointer Reading	Runs of Microscope-Micrometers.						Sum of Runs.
			A	B	C	D	E	F	
		°	r	r	r	r	r	r	r
June	15	240	4·790	4·820	4·802	4·832	4·815	4·810	28·869
		250	·806	·820	·808	·827	·820	·817	·898
		260	·814	·806	·817	·824	·820	·819	·900
	22	270	4·804	4·827	4·808	4·821	4·819	4·806	28·885
		280	·804	·820	·817	·828	·819	·812	·900
		290	·793	·822	·809	·823	·809	·809	·865
	28	300	4·796	4·817	4·816	4·838	4·813	4·823	28·903
		310	·811	·815	·812	·819	·814	·824	·895
		320	·804	·825	·803	·825	·803	·813	·873
July	6	330	4·796	4·820	4·799	4·820	4·817	4·799	28·851
		340	·798	·823	·822	·824	·820	·826	·913
		350	·806	·818	·809	·827	·810	·819	·889
	12	0	4·808	4·797	4·804	4·819	4·820	4·819	28·867
		10	·816	·825	·812	·821	·811	·822	·907
		20	·812	·825	·810	·824	·814	·817	·902
	20	30	4·813	4·820	4·816	4·825	4·822	4·825	28·921
		40	·811	·821	·806	·828	·813	·808	·887
		50	·812	·818	·813	·818	·824	·826	·911
	27	60	4·813	4·822	4·824	4·828	4·816	4·817	28·920
		70	·812	·817	·812	·830	·812	·819	·902
		80	·803	·811	·797	·823	·811	·808	·853
	30	0	4·808	4·823	4·808	4·826	4·811	4·829	28·905
		10	·802	·818	·807	·825	·812	·820	·884
		20	·799	·823	·806	·824	·814	·809	·875
August	3	30	4·808	4·826	4·810	4·825	4·822	4·811	28·902
		40	·811	·814	·817	·818	·811	·818	·889
		50	·806	·824	·816	·828	·821	·826	·921
	10	60	4·817	4·819	4·808	4·818	4·811	4·823	28·896
		70	·800	·820	·808	·824	·809	·815	·876
		80	·803	·813	·830	·824	·817	·823	·910
	17	80	4·803	4·824	4·808	4·826	4·809	4·821	28·891
		90	·807	·814	·815	·826	·822	·825	·909
		100	·805	·820	·823	·823	·815	·815	·901
	24	110	4·800	4·828	4·820	4·809	4·811	4·816	28·884
		120	·808	·824	·811	·816	·817	·808	·884
		130	·796	·806	·809	·807	·809	·820	·847

TABLE VII.—*Continued.*

Runs of each Microscope-Micrometer of the Transit-circle, or the number of Revolutions corresponding to an Arc of 5′, observed in 1856.

Day, 1856.	Pointer Reading.	Runs of Microscope-Micrometers.						Sum of Runs.
		A	B	C	D	E	F	
	°	r	r	r	r	r	r	r
August 31	140	4·806	4·817	4·812	4·812	4·810	4·825	28·882
	150	·811	·813	·817	·826	·810	·811	·888
	160	·791	·810	·803	·812	·819	·819	·854
September 7	170	4·797	4·801	4·816	4·823	4·811	4·806	28·854
	180	·801	·808	·817	·814	·816	·802	·858
	190	·799	·810	·812	·829	·816	·809	·875
14	200	4·797	4·803	4·808	4·807	4·805	4·806	28·826
	210	·811	·817	·811	·823	·817	·807	·886
	220	·799	·816	·801	·817	·813	·816	·862
22	230	4·793	4·827	4·801	4·824	4·824	4·813	28·882
	240	·799	·821	·801	·814	·816	·810	·861
	250	·800	·803	·804	·819	·815	·820	·861
28	260	4·800	4·814	4·804	4·813	4·824	4·813	28·868
	270	·807	·824	·816	·817	·816	·810	·890
	280	·814	·817	·822	·828	·807	·806	·894
October 1	290	4·800	4·813	4·807	4·822	4·810	4·820	28·872
	300	·807	·807	·809	·819	·821	·824	·887
	310	·807	·808	·808	·818	·820	·820	·881
5	320	4·798	4·821	4·795	4·813	4·820	4·805	28·852
	330	·810	·811	·812	·814	·820	·818	·885
	340	·803	·821	·804	·819	·812	·809	·868
10	350	4·807	4·813	4·818	4·829	4·822	4·822	28·911
	0	·821	·823	·807	·822	·821	·815	·909
	10	·803	·815	·816	·819	·816	·818	·887
12	20	4·787	4·818	4·802	4·841	4·818	4·802	28·868
	30	·804	·822	·809	·833	·820	·817	·905
	40	·800	·812	·812	·819	·822	·799	·864
22	50	4·788	4·811	4·804	4·816	4·824	4·819	28·862
	60	·807	·803	·802	·812	·815	·816	·855
	70	·805	·820	·811	·818	·818	·825	·897
November 5	80	4·802	4·808	4·800	4·818	4·813	4·817	28·858
	90	·801	·816	·808	·818	·809	·821	·873
	100	·801	·808	·806	·811	·813	·819	·858
12	110	4·796	4·807	4·804	4·825	4·817	4·818	28·867
	120	·807	·822	·811	·832	·818	·812	·902
	130	·809	·815	·806	·824	·813	·815	·882

TABLE VII.—*Concluded.*

Runs of each Microscope-Micrometer of the Transit-circle, or the number of Revolutions corresponding to an Arc of 5′, observed in 1856.

Day, 1856.	Pointer Reading.	Runs of Microscope-Micrometers.						Sum of Runs.
		A	B	C	D	E	F	
	°	r	r	r	r	r	r	r
November 24	140	4·804	4·831	4·814	4·830	4·814	4·810	28·903
	150	·812	·820	·810	·826	·827	·806	·903
	160	·802	·820	·806	·831	·827	·812	·898
December 7	170	4·804	4·833	4·805	4·815	4·831	4·808	28·896
	180	·799	·826	·794	·807	·837	·813	·876
	190	·800	·821	·823	·826	·820	·812	·902
21	200	4·802	4·807	4·812	4·814	4·820	4·802	28·857
	210	·806	·818	·808	·820	·815	·804	·871
	220	·802	·823	·794	·826	·816	·812	·873
30	230	4·796	4·827	4·803	4·825	4·804	4·804	28·859
	240	·802	·818	·820	·812	·805	·816	·873
	250	·800	·819	·795	·824	·808	·817	·863

TABLE VIII.

Zenith Points of the Transit-circle, 1856.

Day and Hour, 1856.		Object.	Circle Reading Direct.	Circle Reading Reflexion.	Seconds of observed Zenith Point.	Adopted Correction for Zenith Point.	Observer.
	d h				″	″	
Jan.	1 0	Wire.....	... ...	... ...	54·59		T
	1 1	... ...	... ...	... ...	54·69		T
	1 0	... ...	... ...	... ...	54·57		T
	2 20	... ...	... ...	... ...	54·68	+ 5·35	T
	3 20	... ...	... ...	... ...	54·69		T
	3 20	α^2 Centauri.....	26 17 28·44	153 42 20·45	54·45		T
	4 11	Wire.....	... ...	... ...	55 00		T
	7 9	... ...	... ...	... ...	54·66		G
	7 21	... ...	... ...	... ...	54·79		G
	8 8	... ...	... ...	... ...	54·75		G
	8 21	... ...	... ...	... ...	54·83		G
	9 8	... ...	... ...	... ...	54·22		G
	9 21	... ...	... ...	... ...	54·35	+ 5·50	G
	10 8	... ...	... ...	... ...	54·37		G
	10 21	... ...	... ...	... ...	54·54		G
	11 8	... ...	... ...	... ...	54·40		G
	11 21	... ...	... ...	... ...	54·40		G
	12 8	... ...	... ...	... ...	54·22		G
	14 8	... ...	... ...	... ...	53·76		G
	14 21	... ...	... ...	... ...	54·16		G
	15 8	... ...	... ...	... ...	54·09		G
	15 21	... ...	... ...	... ...	54·04		G
	17 9	... ...	... ...	... ...	54·29		G
	18 8	... ...	... ...	... ...	54·60	+ 5·76	G
	18 20	... ...	... ...	... ...	54·42		G
	19 8	... ...	... ...	... ...	54·53		G
	22 8	... ...	... ...	... ...	53·99		G
	23 8	... ...	... ...	... ...	54·26		G
	24 8	... ...	... ...	... ...	54·12		G
	24 20	... ...	... ...	... ...	54·17	+ 5·85	G
	25 8	... ...	... ...	... ...	54·10		G
	25 21	... ...	... ...	... ...	54·27		G
	26 8	... ...	... ...	... ...	54·14		G
	27 21	... ...	... ...	... ...	54·23		G
	28 9	... ...	... ...	... ...	54·17		G
	28 21	... ...	... ...	... ...	54·04		G

TABLE VIII.—*Continued.*

Zenith Points of the Transit-circle, 1856.

Day and Hour, 1856.		Object.	Circle Reading Direct.	Circle Reading Reflexion.	Seconds of observed Zenith Point.	Adopted Correction for Zenith Point.	Observer.
d	h				″	″	
Jan.	29 8	Wire.....	... ...	... ...	54·19		G
	29 21	... ...	... ...	... ...	53·99		G
	30 8	... ...	... ...	... ...	54·35		G
	30 21	... ...	... ...	... ...	54·14	+ 5·83	G
	31 8	... ...	... ...	... ...	54·15		G
	31 21	... ...	... ...	... ...	54·02		G
Feb.	1 8	Wire.....	... ...	... ...	54·25		G
	1 18	α^3 Centauri.....	26 17 29·85	153 42 16·89	53·37		G
	1 21	Wire.....	... ...	... ...	54·31		G
	2 8	... ...	... ...	... ...	54·23		G
	4 10	... ...	... ...	... ...	54·34		G
	5 8	... ...	... ...	... ...	54·53		G
	5 21	... ...	... ...	... ...	54·97		G
	7 8	... ...	... ...	... ...	54·40	+ 5·40	G
	7 21	... ...	... ...	... ...	55·00		G
	8 8	... ...	... ...	... ...	54·74		G
	8 21	... ...	... ...	... ...	54·59		G
	9 8	... ...	... ...	... ...	54·25		G
	11 8	... ...	... ...	... ...	54·17		G
	11 21	... ...	... ...	... ...	54·41		G
	12 8	... ...	... ...	... ...	54·41		G
	12 21	... ...	... ...	... ...	54·65		G
	13 8	... ...	... ...	... ...	54·68		G
	13 21	... ...	... ...	... ...	54·60	+ 5·40	G
	14 10	... ...	... ...	... ...	54·84		G
	14 22	... ...	... ...	... ...	54·75		G
	15 11	... ...	... ...	... ...	54·62		G
	15 20	... ...	... ...	... ...	54·93		G
	16 11	... ...	... ...	... ...	54·50		G
	17 8	... ...	... ...	... ...	54·72		G
	17 21	... ...	... ...	... ...	54·61		G
	18 10	... ...	... ...	... ...	54·27		G
	19 8	... ...	... ...	... ...	54·55		G
	19 21	... ...	... ...	... ...	54·37	+ 5·63	G
	20 8	... ...	... ...	... ...	54·54		G
	21 9	... ...	... ...	... ...	54·30		G

TABLE VIII.—*Continued.*

Zenith Points of the Transit-circle, 1856.

Day and Hour, 1856.		Object.	Circle Reading Direct.	Circle Reading Reflexion.	Seconds of observed Zenith Point.	Adopted Correction for Zenith Point.	Observer.
	d h				″	″	
Feb.	21 21	Wire.....	... ...	... ...	54·23		G
	22 21	... ...	... ...	... ...	54·41		G
	23 8	... ...	... ...	... ...	53·74		G
	24 21	... ...	... ...	... ...	53·78		G
	25 8	... ...	... ...	... ...	54·17		G
	26 8	... ...	... ...	... ...	53·82		G
	26 21	... ...	... ...	... ...	53·77		G
	27 8	... ...	... ...	... ...	53·83		G
	27 22	... ...	... ...	... ...	53·75	+ 6·18	G
	28 8	... ...	... ...	... ...	53·81		G
	28 22	... ...	... ...	... ...	53·49		G
	29 8	... ...	... ...	... ...	53·86		G
	29 22	... ...	... ...	... ...	53·95		G
March	1 8	... ...	... ...	... ...	53·84		G
	2 21	... ...	... ...	... ...	53·70		G
	4 8	... ...	... ...	... ...	54·01		G
	4 21	... ...	... ...	... ...	54·37		G
	6 7	... ...	... ...	... ...	54·50	+ 5·78	G
	7 8	... ...	... ...	... ...	54·45		G
	8 0	... ...	... ...	... ...	54·29		G
	10 8	... ...	... ...	... ...	54·78		G
	10 23	... ...	... ...	... ...	54·85		G
	12 7	... ...	... ...	... ...	55·05		G
	12 21	... ...	... ...	... ...	54·58	+ 5·18	G
	13 7	... ...	... ...	... ...	54·88		G
	14 22	... ...	... ...	... ...	54·81		G
	15 7	... ...	... ...	... ...	54·82		G
	19 1	... ...	... ...	... ...	55·02		T
	19 9	... ...	... ...	... ...	54·91		T
	19 23	... ...	... ...	... ...	54·89		T
	21 2	... ...	... ...	... ...	54·81	+ 5·19	T
	22 1	... ...	... ...	... ...	54·93		T
	24 1	... ...	... ...	... ...	54·70		T
	25 0	... ...	... ...	... ...	54·43		T
	26 0	... ...	... ...	... ...	54·27		T

TABLE VIII.—*Continued.*

Zenith Points of the Transit-circle, 1856.

Day and Hour, 1856.		Object.	Circle Reading Direct.	Circle Reading Reflexion.	Seconds of observed Zenith Point.	Adopted Correction for Zenith Point.	Observer.
d	h		° ′ ″	° ′ ″	″	″	
March 27	0	Wire.....	... ...	... ...	54·69		T
27	1	... ...	... ...	... ...	54·44		T
27	13	Wire.....	... ...	... ...	54·72		G
27	14	α^2 Centauri.....	26 17 44·02	153 42 5·55	54·79		T
27	19	Wire.....	... ...	... ...	54·89	+ 5·26	T
27	23	... ...	... ...	... ...	54·81		T
28	7	... ...	... ...	... ...	54·95		T
28	20	... ...	... ...	... ...	55·07		T
29	0	... ...	... ...	... ...	54·99		T
29	7	... ...	... ...	... ...	54 51		G
29	20	... ...	... ...	... ...	54·75		T
30	22	... ...	... ...	... ...	54·48		T
April 1	21	... ...	... ...	... ...	54·58		T
2	11	... ...	... ...	... ...	54·86		G
2	21	... ...	... ...	... ...	54·47		T
3	7	... ...	... ...	... ...	54·62		G
7	11	... ...	... ...	... ...	55·07	+ 5·38	G
8	11	... ...	... ...	... ...	54·55		G
8	19	... ...	... ...	... ...	54·65		T
9	0	... ...	... ...	... ...	54·47		T
9	0	... ...	... ...	... ...	54·49		T
10	1	... ...	... ...	... ...	54·53		T
10	11	... ...	... ...	... ...	54·95		G
11	1	... ...	... ...	... ...	54·79		T
13	20	... ...	... ...	... ...	54·70		T
14	11	... ...	... ...	... ...	54·19	+ 5·22	G
15	11	... ...	... ...	... ...	54·85		G
15	12	... ...	... ...	... ...	55·02		W
15	22	... ...	... ...	... ...	54·87		T
16	12	... ...	... ...	... ...	54·80		W
16	20	... ...	... ...	... ...	55·09		T
17	0	... ...	... ...	... ...	53·28		T
17	1	... ...	... ...	... ...	53·90		T
17	5	... ...	... ...	... ...	55 13		T

April 17.—Hot day; room open, and instrument exposed.

TABLE VIII.—*Continued.*

Zenith Points of the Transit-circle, 1856.

Day and Hour, 1856.		Object.	Circle Reading Direct.	Circle Reading Reflexion.	Seconds of observed Zenith Point.	Adopted Correction for Zenith Point.	Observer.
d	h		° ′ ″	° ′ ″	″	″	
April	17 10	Wire.....	... ...	... ...	55·31		G
	17 12	... ...	... ...	... ...	54·91		W
	17 21	... ...	... ...	... ...	55·04	+ 5·21	T
	19 10	... ...	... ...	... ...	54·80		T
	21 11	... ...	... ...	... ...	55·02		W
	21 14	... ...	... ...	... ...	55·22		T
	22 11	... ...	... ...	... ...	55·15		W
	22 13	... ...	... ...	... ...	54·95		T
	23 16	... ...	... ...	... ...	55·27		T
	24 11	... ...	... ...	... ...	55·29		W
	24 18	... ...	... ...	... ...	55·27		G
	24 23	... ...	... ...	... ...	54·98		T
	25 18	... ...	... ...	... ...	55·58		G
	26 1	... ...	... ...	... ...	55·26		T
	26 11	... ...	... ...	... ...	55·38		W
	26 17	... ...	... ...	... ...	54·89		T
	26 20	... ...	... ...	... ...	55·18		T
	27 18	... ...	... ...	... ...	55·18	+ 4·93	T
	27 22	β Hydri.....	44 6 39·52	135 53 7·62	53·57		T
	27 23	Achernar.....	24 1 28·49	155 58 20·89	54·69		T
	28 10	Wire.....	... ...	... ...	55·06		W
	28 23	Achernar...	24 1 29·90	155 58 21·25	55·58		T
	29 7	Wire...	... ...	... ...	55·10		G
	29 10	... ...	... ...	... ...	54·98		W
	29 23	Achernar.	24 1 27·73	155 58 22·10	54·92		T
	29	Wire.....	... ...	... ...	54·82		T
	30 10	... ...	... ...	... ...	55·33		W
May	1 10	... ...	... ...	... ...	55·22		W
	1 23	... ...	... ...	... ...	55·17		T
	1 23	Achernar.....	24 1 27·63	155 58 23·81	55·72		T
	2 10	Wire..	... ...	... ...	55·21		G
	3 3	... ...	... ...	... ...	55·07	+ 4·53	T
	3 10	... ...	... ...	... ...	55·70		G
	3 11	β Centauri.....	25 44 11·46	154 15 39·64	55·55		T
	3 12	α^2 Centauri.....	26 17 55·75	153 41 54·78	55·27		T
	4 21	β Hydri.....	44 6 36·86	135 53 14·71	55·79		T
	5 10	Wire.....	... ...	... ...	55·95		G

TABLE VIII.—*Continued.*

Zenith Point of the Transit-circle, 1856.

Day and Hour, 1856.		Object.	Circle Reading Direct.	Circle Reading Reflexion.	Seconds of observed Zenith Point.	Adopted Correction for Zenith Point.	Observer.
	h d		° ′ ″	° ′ ″	″	″	
May	6 11	Wire.....	... ...	... ...	55·69		G
	6 12	α^2 Centauri	26 17 56·58	153 41 54·69	55·64		T
	6 13	β^1 Scorpii.....	345 28 46·32	194 31 4·99	55·66		T
	6 13	Antares.....	352 10 41·50	187 49 9·73	55·62		T
	6 14	Wire.....	... ...	... ...	56·03		T
	6 21	... ...	... ...	... ...	55·91	+ 4·22	T
	6 21	β Hydri.....	44 6 36·25	135 53 15·36	55·81		T
	6 23	Archernar.	24 1 26·52	155 58 25·62	56·07		T
	7 4	Procyon.....	320 29 11·29	219 30 39·97	55·63		T
	7 5	Wire.....	... ...	... ...	55·71		T
	8 0	Wire.....	... ...	... ...	3·41		T
	8 9	... ...	... ...	... ...	3·58		W
	9 3	... ...	... ...	... ...	3·42		T
	9 7	η Argûs.....	24 59 34·37	155 0 32·62	3·50		T
	9 21	β Hydri.....	44 6 42·07	135 53 23·06	2·57		T
	9 21	β Ceti.....	344 50 49·43	195 9 15·99	2·71	— 3·35	T
	9 22	Achernar.....	24 1 31·89	155 58 34·64	3·27		T
	10 7	Wire.....	... ...	... ...	3·54		W
	11 9	Wire.....	... ...	... ...	3·68		T
	11 22	Achernar.....	24 1 32·57	155 58 34·99	3·78		T
	12 12	Wire.....	... ...	... ...	3·91		G
	13 13	... ...	... ...	... ...	3·66		W
	14 11	... ...	... ...	... ...	3·88		G
	15 21	... ...	... ...	... ...	3·82		T
	15 22	Achernar.	24 1 31·19	155 58 37·03	4·11		T
	16 2	Wire.....	... ...	... ...	3·67		T
	16 3	Canopus.....	18 40 51·82	161 19 16·13	3·98		T
	16 3	Sirius.....	342 35 36·80	197 24 30·33	3·57	— 3·68	T
	16 4	Procyon.....	320 29 18·81	219 30 47·66	3·24		T
	16 6	Wire.....	... ...	... ...	3·65		G
	16 21	... ...	... ...	... ...	3·87		T
	20 9	... ...	... ...	... ...	3·42		W
	20 20	... ...	... ...	... ...	3·45		T
	20 22	Achernar.....	24 1 28·44	155 58 38·26	3·35		T

Immediately after the transit of β Ceti, on May 7th, the Microscopes were adjusted so as to bring their readings into closer accordance. The Microscopes altered were A, B, C, D, E.

TABLE VIII.—*Continued.*

Zenith Points of the Transit-circle, 1856.

Day and Hour, 1856.		Object.	Circle Reading Direct.	Circle Reading Reflexion.	Seconds of observed Zenith Point.	Adopted Correction for Zenith Point.	Observer.
	h d		° ′ ″	° ′ ″	″	″	
May	21 1	Rigel	334 26 39·67	205 33 26·06	2·87		T
	21 2	Canopus	18 40 49·94	161 19 15·57	2·76		T
	21 3	ε Canis Majoris	354 0 51·18	185 9 13·60	2·39		T
	21 4	15 Argûs	349 57 46·28	190 3 20·17	3·28		T
	21	Wire	... ...	... ...	3·31		T
	21 9	... ...	... ...	... ...	3·56		G
	21 19	... ...	... ...	... ...	3·84		T
	21 20	... ...	... ...	... ...	3·62		T
	21 22	Achernar	24 1 28·20	155 58 39·96	4·08		T
	21 22	Wire	... ...	... ...	3·55		T
	22 1	Rigel	334 26 39·42	205 33 26·24	2·83		T
	22 2	α Orionis	318 42 9·22	221 17 56·70	2·96	— 3·24	T
	22 2	Canopus	18 40 51·00	161 19 14·53	2·77		T
	22 3	Sirius	342 35 35·05	197 24 31·40	3·23		T
	22 3	ε Canis Majoris	354 50 51·98	185 9 13·57	2·78		T
	22 4	15 Argûs	349 57 47·27	190 2 20·63	3·95		T
	22 5	Wire	... ...	... ...	3·65		T
	22 9	... ...	... ...	... ...	3·44		W
	22 9	Spica	336 29 8·04	203 30 56·91	2·48		W
	22 10	β Centauri	25 44 22·22	154 15 42·77	2·49		W
	22 19	Wire	... ...	... ...	3·08		T
	22 19	... ...	... ...	... ...	3·23		T
	22 21	... ...	... ...	... ...	3·58		T
	22 23	... ...	... ...	... ...	3·48		T
	23 3	... ...	... ...	... ...	3·57		T
	23 5	... ...	... ...	... ...	3·71		T
	23 9	... ...	... ...	... ...	3·58		G
	23 19	... ...	... ...	... ...	3·73		T
	24 10	... ...	... ...	... ...	3·60		W
	27 9	Spica	336 29 8·77	203 30 58·85	3·81		W
	27 10	Wire	... ...	... ...	3·83		W
	27 10	α^2 Centauri	26 18 10·21	153 41 56·71	3·46	— 3·43	W
	28 9	Wire	... ...	... ...	2·66		G
	28 10	α^2 Centauri	26 18 7·84	153 41 56·48	2·16		G
	29 7	Wire	... ...	... ...	3·55		W
	30 9	... ...	... ...	... ...	3·65		G
	30 10	α^2 Centauri	26 18 9·47	153 41 57·00	3·24		G
	30	Wire	... ...	... ...	3·49		T

TABLE VIII.—*Continued.*

Zenith Points of the Transit-circle, 1856.

Day and Hour, 1856.		Object.	Circle Reading Direct.	Circle Reading Reflexion.	Seconds of observed Zenith Point.	Adopted Correction for Zenith Point.	Observer.
d	h		° ′ ″	° ′ ″	″	″	
May 31	2	Sirius.....	342 35 35·32	197 24 32·66	3·99		T
31	2	ε Canis Majoris...	354 50 49·85	185 9 16·35	3·10		T
31	3	Wire.....	... ...	... ...	3·77		T
31	9	... ...	... ...	... ...	3·89		W
31	10	α^2 Centauri.....	26 18 11·06	153 41 56·09	3·08		W
31	11	α Serpentis.....	319 12 7·71	220 47 59·71	3·71		W
31	20	Wire.....	... ...	... ...	3·80		T
31	21	... ...	... ...	... ...	3·72		T
31	23	... ...	... ...	... ...	3·67		T
31	25	... ...	... ...	... ...	3·98		T
31	28	... ...	... ...	... ...	3·96		T
31	29	... ...	... ...	... ...	4·07		T
June 1		... ...	... ...	... ...	4·02		T
2	9	... ...	... ...	... ...	3·79	— 3·69	G
2	10	α^2 Centauri.....	26 18 10·45	153 41 56·89	3·67		G
2	19	Wire.....	... ...	... ...	3·28		T
2	19	... ...	... ...	... ...	3·58		T
3		... ...	... ...	... ...	3·58		T
3	9	β Centauri	25 44 26·81	154 15 40·13	3·47		W
3	10	Wire.....	... ...	... ...	4·00		W
3	11	β Scorpii.....	345 28 55·56	194 31 11·74	3·65		W
3	19	Wire.....	... ...	... ...	3·55		T
4	1	... ...	... ...	... ...	3·64		T
4	5	... ...	... ...	... ...	3·56		T
4	18	... ...	... ...	... ...	4·13		T
5	10	α^2 Centauri.....	26 18 11·69	153 41 54·98	3·34		W
5	10	Wire.....	... ...	... ...	3·85		W
5	11	β^1 Scorpii.....	345 28 55·75	194 31 11·45	3·60		W
5	19	Wire.....	... ...	... ...	3·48		T
6	8	Wire.....	... ...	... ...	3·41		G
6	11	δ Ophiuchi.....	329 24 0·07	210 36 8·90	4·48		G
6	18	Wire.....	... ...	... ...	3·33		T
7	6	... ...	... ...	... ...	3·36		T
7	10	... ...	... ...	... ...	3·65		W
7	10	α Serpentis.....	319 12 5·88	220 48 0·18	3·03		W
7	11	Antares.....	352 10 50·62	187 49 15·65	3·14		W
7	11	α Trianguli Aust.	34 48 53·94	145 11 14·47	4·21		W
7	19	Wire.....	... ...	... ...	3·22		T

TABLE VIII.—*Continued.*

Zenith Points of the Transit-circle, 1856.

Day and Hour, 1856.	Object.	Circle Reading Direct.	Circle Reading Reflexion.	Seconds of observed Zenith Point.	Adopted Correction for Zenith Point.	Observer.
d h		° ′ ″	° ′ ″	″	″	
June 8	Wire.....	... ...	... ...	3·34		T
8 20	... ...	... ...	... ...	3·64		T
9	... ...	... ...	... ...	3·42		G
10	... ...	... ...	... ...	3·58		T
10 8	... ...	... ...	... ...	3·65	— 3·47	W
10 9	α^2 Centauri.....	26 18 12·30	153 41 53·20	2·75		W
10 10	α Serpentis.....	319 12 5·95	220 48 0·20	3·08		W
10 11	Antares.....	352 10 50·65	187 49 15·13	2·89		W
10 11	α Trianguli Aust.	34 48 54·79	145 11 12·25	3·52		W
10 19	Wire.....	... ...	... ...	3·52		T
11 1	... ...	... ...	... ...	3·52		T
11 1	Sirius.....	342 35 31·78	197 24 33·94	2·86		T
11 10	Wire	... ...	... ...	3·71		G
11 17	... ...	... ...	... ...	3·71		T
11 19	... ...	... ...	... ...	3·69		T
14 8	... ...	... ...	... ...	3·95		W
15 17	... ...	... ...	... ...	4·03		W
16 6	... ...	... ...	... ...	3·26		T
16 8	... ...	... ...	... ...	3·56		G
16 19	... ...	... ...	... ...	3·84		T
17 0	... ...	... ...	... ...	3·55		T
17 6	... ...	... ...	... ...	3·57		T
17 9	α^2 Centauri.....	26 18 13·13	153 41 53·04	3·09		W
17 11	Wire.....	... ...	... ...	3·74		W
18 3	... ...	... ...	... ...	3·45		T
18 5	... ...	... ...	... ...	3·50	— 3·60	T
18 9	... ...	... ...	... ...	3·47		T
18 21	... ...	... ...	... ...	3·54		T
19 0	... ...	... ...	... ...	3·50		T
19 5	... ...	... ...	... ...	3·71		T
19 10	... ...	... ...	... ...	3·92		W
19 20	... ...	... ...	... ...	3·83		T
19 23	... ...	... ...	... ...	3·68		T
20 7	... ...	... ...	... ...	3·65		T
20 20	... ...	... ...	... ...	3·65		T
20 23	... ...	... ...	... ...	3·46		T
21 9	... ...	... ...	... ...	3·65		W

TABLE VIII.—*Continued.*

Zenith Points of the Transit-circle, 1856.

Day and Hour, 1856.		Object.	Circle Reading Direct.	Circle Reading Reflexion.	Seconds of observed Zenith Point.	Adopted Correction for Zenith Point.	Observer.
d	h		° ′ ″	° ′ ″	″	″	
June	22	4	Wire.....	... ...	... ...	3·61		T
	22	22	... ...	... ...	... ...	3·51		T
	23	8	α^2 Centauri.....	26 18 13·80	153 41 53·66	3·48		G
	23	9	Wire.....	... ...	... ...	3·40		G
	25	1	... ...	... ...	... ...	3·39		T
	25	5	... ...	... ...	... ...	3·47		T
	26	5	... ...	... ...	... ...	3·55		T
	26	20	... ...	... ...	... ...	3·76		T
	27	7	... ...	... ...	... ...	3·42		T
	27		... ...	... ...	... ...	3·44	— 3·58	T
	28		... ...	... ...	... ...	3·67		T
	28	7	β Centauri.....	25 44 29·74	154 15 37·14	3·44		T
	28	8	α^2 Centauri.....	26 18 14·73	153 41 51·82	3·28		W
	28	10	Wire.....	... ...	... ...	3·83		W
	28	17	... ...	... ...	... ...	3·89		T
	28	19	θ^1 Ceti.....	334 59 52·71	205 0 14·55	3·63		T
	28	19	ζ Ceti.....	337 7 2·38	202 53 5·46	3·92		T
	28	20	Wire.....	... ...	... ...	3·74		T
	29	7	... ...	... ...	... ...	3·44		T
	29	19	... ...	... ...	... ...	3·62		T
	30	8	α^2 Centauri.....	26 18 13·97	153 41 52·15	3·06		G
	30		Wire.....	... ...	... ...	3·79		G
	30	9	β Libræ.....	334 55 36·70	205 4 31·99	4·35		G
	30	9	α Serpentis.....	319 12 4·89	220 48 3·63	4·26		G
	30	10	Wire.....	... ...	... ...	3·54		G
	30	11	κ Scorpii.....	5 1 5·80	174 59 0·34	3·07		G
	30	12	μ^1 Sagittarii.....	347 9 51·21	192 50 13·88	2·55		G
	30	12	Wire	... ...	... ...	3·81		G
	30	18	... ...	... ...	... ...	3·53		T
July	1		... ...	... ...	... ...	3·48		T
	1	8	α^2 Centauri...	26 18 16·01	153 41 51·52	3·77		W
	1	8	Wire.....	... ...	... ...	3·70		W
	1	9	β Libræ.....	334 55 34·28	205 4 31·49	2·89		W
	1	9	α Serpentis	319 12 4·07	220 48 2·62	3·35		W
	1	10	Wire.....	... ...	... ...	3·88		W
	1	10	α Trianguli Aust.	34 48 58·95	145 11 9·37	4·16		W
	1	10	ϵ^2 Aræ.....	19 4 49·71	160 55 18·48	4·10		W

TABLE VIII.—*Continued.*

Zenith Points of the Transit-circle, 1856.

Day and Hour, 1856.		Object.	Circle Reading Direct.	Circle Reading Reflexion.	Seconds of observed Zenith Point.	Adopted Correction for Zenith Point.	Observer.
d	h		° ′ ″	° ′ ″	″	″	
July	1 11	B.A.C. 5855.....	10 5 9·96	169 54 56·98	3·47		W
	1 11	Wire.....	... ...	... ...	3·95	— 3·42	W
	2 7	... ...	... ...	... ...	3·58		T
	2 8	α^2 Centauri.....	26 18 14·63	153 41 50·92	2·78		G
	2 8	Wire.....	... ...	... ...	3·59		G
	2 8	β Libræ.....	334 55 34·09	205 4 32·32	3·21		G
	2 9	β^1 Scorpii.....	345 28 55·98	194 31 11·05	3·52		G
	2 10	α Triang. Aust.....	34 48 58 47	145 11 8·80	3·64		G
	2 11	ι^2 Scorpii.....	6 6 22·98	173 53 44·77	3·88		G
	2 11	μ^1 Sagittarii	347 9 49·30	192 50 15·18	2·24		G
	2 12	Wire.....	... ...	... ...	3·62		G
	2	... ...	... ...	... ...	3·50		T
	3 5	... ...	... ...	... ...	3·53		T
	3 8	α^2 Centauri.....	26 18 16·32	153 41 50·96	3·64		W
	3	Wire.....	... ...	... ...	3·51		W
	3 9	ζ^4 Libræ.....	342 26 11·85	197 33 54·41	3·13		W
	3 9	B.A.C. 5309.....	321 14 54·08	218 45 13·17	3·63		W
	3 10	25 Scorpii.....	351 20 4·96	188 40 2·03	3·50		W
	3 10	29 Ophiuchi.....	344 44 36·73	195 15 28·97	2·85		W
	3 10	B.A.C. 5855.....	10 5 11·13	169 54 57·05	4·09		W
	3 11	π Aræ.....	20 27 42·53	159 32 23·98	3·26		W
	3 11	B.A.C. 6010.....	31 29 52·35	148 30 14·79	3·57		W
	3 12	60 Serpentis.....	328 9 9·25	211 50 57·11	3·18		W
	3 12	Wire.....	... ...	... ...	3·71		W
	3	... ...	... ...	... ...	3·65		T
	4	... ...	... ...	... ...	3·40		T
	4	... ...	... ...	... ...	3·69		T
	4 18	... ...	... ...	... ...	3·47		T
	5 7	... ...	... ...	... ...	3·18		T
	5 9	... ...	... ...	... ...	3·35		W
	5 8	ζ^3 Libræ.....	342 11 14·55	197 48 50·42	2·49		W
	5 9	B.A.C. 5197.....	350 19 58·17	189 40 8·17	3·17		W
	5 9	B.A.C. 5384.....	23 36 20·00	156 23 46·64	3·32		W
	5 10	η^3 Triang. Aust....	33 53 20·56	146 6 45·82	3·19		W
	5 10	ι Apodis.....	36 1 23·11	143 58 41·68	2·40		W
	5 11	B.A.C. 5934.....	38 11 55·15	141 48 11·37	3·26		W
	5 11	B.A.C. 6112.....	9 29 35·80	170 30 30·50	3·15		W
	5 11	Wire.....	... ...	... ...	3·45		W

TABLE VIII.—*Continued.*

Zenith Points of the Transit-circle, 1856.

Day and Hour, 1856.		Object.	Circle Reading Direct.	Circle Reading Reflexion.	Seconds of observed Zenith Point.	Adopted Correction for Zenith Point.	Observer.
	d h		° ′ ″	° ′ ″	″	″	
July	5 11	60 Serpentis.....	328 9 8·35	211 50 56·81	2·58		W
	5 12	4 Aquilæ.....	324 9 43·87	215 50 22·13	3·00		W
	5 12	62 Serpentis.....	319 38 34·09	220 21 32·31	3·20		W
	5 12	Wire.....	... ...	... ...	3·56		W
	5	... ...	... ...	... ...	3·61		T
	6 6	... ...	... ...	... ...	3·54		T
	6	... ...	... ...	... ...	3·49		T
	7 7	... ...	... ...	... ...	3·23		G
	7 7	α^2 Centauri.....	26 18 15·06	153 41 52·02	3·54		G
	7 8	β Libræ.....	334 55 33·54	205 4 32·32	2·93		G
	7 9	α Serpentis.....	319 12 3·72	220 48 3·58	3·65		G
	7 9	β^1 Scorpii.....	345 28 54·31	194 31 8·98	1·65		G
	7 10	Wire.....	... ...	... ...	3·66		G
	7 10	η Scorpii.....	9 6 45·18	170 53 23·19	4·19		G
	7 10	d Ophiuchi.....	355 48 11·24	184 11 53·55	2·40		G
	7 11	3 Sagittarii.....	353 50 33·58	186 9 33·97	3·78		G
	7 12	λ Telescopii.....	19 11 2·04	160 49 4·03	3·04		G
	7 12	Wire.....	... ...	... ...	3·37		G
	7	... ...	... ...	... ...	3·30		T
	8	... ...	... ...	... ...	3·17		T
	8 7	α^2 Centauri.....	26 18 16·09	153 41 50·22	3·16		W
	8 8	Wire.....	... ...	... ...	3·89		W
	8 8	μ Lupi.....	13 24 36·76	166 35 29·57	3·17		W
	8 8	B.A.C. 5029.....	13 24 51·74	166 35 14·43	3·09		W
	8 8	B.A.C. 5107.....	41 39 38·39	138 20 27·86	3·13		W
	8 9	B.A.C. 5217.....	30 46 30·68	149 13 35·83	3·26		W
	8 9	δ^1 Apodis.....	44 22 50·35	135 37 15·54	2·94		W
	8 9	δ^2 Apodis.....	44 22 10·69	135 38 55·47	3·08		W
	8 10	41 Herculis.....	319 42 50·40	220 17 14·52	2·46		W
	8 10	Wire.....	... ...	... ...	3·63		W
	8 10	B.A.C. 5789.....	352 55 47·42	187 4 18·90	3·16		W
	8 11	B.A.C. 6049.....	336 56 7·18	203 3 59·02	3·10		W
	8 11	16 Sagittarii.....	346 29 55·12	193 30 10·35	2·74		W
	8 11	61 Serpentis.....	327 10 46·94	212 49 19·11	3·03	— 3·26	W
	8 12	Wire.....	... ...	... ...	3·55		W
	8	... ...	... ...	... ...	3·25		T
	10 8	... ...	... ...	... ...	3·67		W

TABLE VIII.—*Continued.*

Zenith Points of the Transit-circle, 1856.

Day and Hour, 1856.		Object.	Circle Reading Direct.	Circle Reading Reflexion.	Seconds of observed Zenith Point.	Adopted Correction for Zenith Point.	Observer.
d	h		° ′ ″	° ′ ″	″	″	
July	10 9	δ^1 Apodis.....	44 22 49·81	135 37 15·24	2·53		W
	10 9	δ^2 Apodis.....	44 21 11·37	135 38 55·28	3·33		W
	10 9	B.A.C. 5485.....	23 29 41·34	156 30 24·76	3·05		W
	10 9	η^2 Trianguli Aust.	33 53 20·58	146 6 45·87	3·23		W
	10 10	Wire.....	... ...	... ...	3·53		W
	10 11	τ Ophiuchi.....	334 15 7·99	205 44 58·80	3·40		W
	10 11	15 Sagittarii.....	346 50 20·38	193 9 46·06	3·22		W
	10 11	Wire.....	... ...	... ...	3·24		W
	10 18	... ...	... ...	... ...	3·28		T
	11 5	... ...	... ...	... ...	3·51		T
	11 8	... ...	... ...	... ...	3·65		G
	11 8	β^1 Scorpii.....	345 28 54·81	194 31 11·05	2·93		G
	11 9	ζ Aræ.....	21 49 18·96	158 10 47·32	3·14		G
	11 10	β Aræ.....	21 27 8·12	158 33 0·32	4·22		G
	11 10	π Aræ.....	20 27 44·45	159 32 23·30	3·88		G
	11 10	Wire.....	... ...	... ...	3·84		G
	11 11	4 Sagittarii.....	349 52 9·39	190 7 54·44	1·92		G
	11 11	B.A.C. 6343.....	349 41 39·67	190 18 26·62	3·15		G
	11 12	Wire.....	... ...	... ...	3·85		G
	12 9	... ...	... ...	... ...	3·47		W
	12 10	B.A.C. 5760.....	326 46 11·47	213 13 54·37	2·92		W
	12 10	B.A.C. 5888.....	338 27 22·81	201 32 42·99	2·90		W
	12 11	Wire.....	... ...	... ...	3·79		W
	16 12	... ...	... ...	... ...	3·50		W
	18 7	... ...	... ...	... ...	3·53		G
	18 19	... ...	... ...	... ...	3·44		G
	19 7	... ...	... ...	... ...	3·34		G
	19 19	... ...	... ...	... ...	3·42		G
	21 7	... ...	... ...	... ...	3·42		T
	22 7	... ...	... ...	... ...	3·52	— 3·47	T
	22 16	... ...	... ...	... ...	3·52		T
	23 7	... ...	... ...	... ...	3·36		W
	23 17	... ...	... ...	... ...	3·68		T
	30 0	... ...	... ...	... ...	13·11		T
	30 8	... ...	... ...	... ...	13·48		T

On July 27 the west-end of the axis of the Transit-circle was raised, by placing three laminæ of tin-foil between the Y bearing and its foundation-plate.

TABLE VIII.—*Continued.*

Zenith Points of the Transit-circle, 1856.

Day and Hour, 1856.	Object.	Circle Reading Direct.	Circle Reading Reflexion.	Seconds of observed Zenith Point.	Adopted Correction for Zenith Point.	Observer.
d h		° ′ ″	° ′ ″	″	″	
Aug. 1 7	Wire.....	... ...	... ...	13·48		T
1 20	... ...	... ...	... ...	13·76		T
1 21	... ...	... ...	... ...	13·77		T
2 5	... ...	... ...	... ...	13·47	— 13·53	T
2 20	... ...	... ...	... ...	13·67		T
3 9	... ...	... ...	... ...	13·51		T
3 17	... ...	... ...	... ...	13·59		T
4 7	... ...	... ...	... ...	13·37		G
4 19	... ...	... ...	... ...	13·60		G
5 7	... ...	... ...	... ...	13·59		G
8 7	... ...	... ...	... ...	13·19		T
8 17	... ...	... ...	... ...	13·48		T
10 9	... ...	... ...	... ...	13·54		T
10 18	... ...	... ...	... ...	13·88		T
11 7	... ...	... ...	... ...	13·51	— 13·56	G
12 7	... ...	... ...	... ...	13·49		G
13 18	... ...	... ...	... ...	13·71		W
14 12	... ...	... ...	... ...	13·61		W
14 19	... ...	... ...	... ...	13·61		W
15 8	... ...	... ...	... ...	13·41		T
15 21	... ...	... ...	... ...	13·51		T
16 6	... ...	... ...	... ...	13·78		T
16 14	... ...	... ...	... ...	13·64		T
16 17	... ...	... ...	... ...	13·70		T
17 12	... ...	... ...	... ...	13·51		T
18 7	... ...	... ...	... ...	13·78		G
18 16	... ...	... ...	... ...	13·79		G
20 8	... ...	... ...	... ...	13·51	— 13·65	W
20 18	... ...	... ...	... ...	13·70		W
22 8	... ...	... ...	... ...	13·39		T
22 21	... ...	... ...	... ...	13·75		T
23 10	... ...	... ...	... ...	13·54		T
23 20	... ...	... ...	... ...	13·92		T
24	... ...	... ...	... ...	13·72		T
27 20	... ...	... ...	... ...	13·68		W
29 5	... ...	... ...	... ...	13·73		T
29 18	... ...	... ...	... ...	13·52		T

TABLE VIII.—*Continued.*

Zenith Points of the Transit-circle, 1856.

Day and Hour, 1856.		Object.	Circle Reading Direct.	Circle Reading Reflexion.	Seconds of observed Zenith Point.	Adopted Correction for Zenith Point.	Observer.
d	h		° ′ ″	° ′ ″	″	″	
Aug. 30	4	α^2 Centauri.....	26 18 24·76	153 42 1·67	13·22		T
30	5	Wire.....	... ...	... ...	13·50		T
Sept. 1	6	... ...	... ...	... ...	13·62		G
3	4	α^2 Centauri.....	26 18 24·57	153 42 2·14	13·36		W
3	7	Wire.....	... ...	... ...	13·26	— 13·45	W
4	7	... ...	... ...	.. ...	13·20		W
5	4	α^2 Centauri.....	26 18 24·75	153 42 2·89	13·82		T
5		Wire.....	... ...	... ...	13·39		T
6	3	... ...	... ...	... ...	13·29		T
6	3	α^2 Centauri.....	26 18 24·89	153 42 3·59	14·24		T
6	9	Wire.....	... ...	... ...	13·39		T
7	4	... .	... ...	... ...	13·70		T
8	3	α^2 Centauri.....	26 18 23·90	153 42 2·89	13·40		G
8	8	Wire.....	... ...	... ...	13·44		G
10	3	α^2 Centauri.....	26 18 22·93	153 42 3·43	13·18		W
10	8	Wire.....	... ...	... ...	13·37		W
11	3	α^2 Centauri.....	26 18 22·87	153 42 2·69	12·78		W
11	7	Wire.....	... ...	... ...	13·20		W
11	19	... ...	... ...	... ...	13·27		W
12	9	... ...	... ...	... ...	13·31		T
13	9	... ...	... ...	... ...	13·34		T
13	11	... ...	... ...	... ...	13·32		T
13	17	... ...	... ...	... ...	13·72	— 13·29	T
14	14	... ...	... ...	... ...	13·85		T
15	3	α^2 Centauri.....	26 18 23·18	153 42 4·67	13·93		G
15		Wire.....	... ...	... ...	13·26		G
15	18	... ...	... ...	... ...	13·26		G
16	3	α^2 Centauri.....	26 18 20·88	153 42 3·78	12·33		G
16	9	Wire.....	... ...	... ...	13·32		G
16	18	... ...	... ...	... ...	13·37		G
18	17	... ...	... ...	... ...	13·35		W
19	18	... ...	... ...	... ...	13·41		T
20	2	... ...	... ...	... ...	13·20		T
20		... ...	... ...	... ...	12·13		T
20		... ...	... ...	... ...	12·07		T
20	20	... ...	... ...	... ...	12·38		T
21	0	... ...	... ...	... ...	12·12		T
21		... ...	... ...	... ...	12·11		T

TABLE VIII.—*Continued.*

Zenith Points of the Transit-circle, 1856.

Day and Hour, 1856.		Object.	Circle Reading Direct.	Circle Reading Reflexion.	Seconds of observed Zenith Point.	Adopted Correction for Zenith Point.	Observer.
d	h		° ′ ″	° ′ ″	″	″	
Sept. 22		Wire.....	... ...	... ...	12·14		G
22	3	α^2 Centauri.....	26 18 19·23	153 42 3·73	11·48		G
22	7	Wire.....	... ...	... ...	12·11	— 12·08	G
23	0	... ...	... ...	... ...	12·20		G
23	18	... ...	... ...	... ...	12·25		G
24	8	... ...	... ...	... ...	12·13		W
25	2	α^2 Centauri.....	26 18 19·38	153 42 4·97	12·18		W
25	9	Wire.....	... ...	... ...	12·01		W
26	2	α^2 Centauri.....	26 18 18·93	153 42 5·26	12·10		T
26	2	Wire.....	... ...	... ...	11·94		T
26	15	... ...	... ...	... ...	12·06		T
26	23	... ...	... ...	... ...	12·15		T
27	13	... ...	... ...	... ...	11·82		T
Oct. 1	8	... ...	... ...	... ...	12·12		W
2	10	... ...	... ...	... ...	12·51		W
3	2	α^2 Centauri.....	26 18 16·48	153 42 7·25	11·87		W
3	10	Wire.....	... ...	... ...	12·47		W
4	2	α^2 Centauri.....	26 18 16·93	153 42 7·52	12·23	— 12·02	T
4	3	Wire.....	... ...	... ...	12·12		T
4		... ...	... ...	... ...	12·08		T
6	0	... ...	... ...	... ...	11·82		G
6	1	α^2 Centauri.....	26 18 14·41	153 42 7·23	10·82		G
6	8	Wire.....	... ...	... ...	12·16		G
8	1	α^2 Centauri.....	26 18 14·33	153 42 8·96	11·65		G
8	23	Wire.....	... ...	... ...	11·96		T
9	12	... ...	... ...	... ...	11·80		T
10	10	... ...	... ...	... ...	11·89		W
11	11	... ...	... ...	... ...	11·76		W
12	12	... ...	... ...	... ...	12·08		T
14	9	... ...	... ...	... ...	11·87	— 11·76	G
15	1	α^2 Centauri.....	26 18 14·00	153 42 9·49	11·75		W
15	14	Wire.....	... ...	... ...	11·48		W
16	1	α^2 Centauri.....	26 18 12·94	153 42 9·58	11·26		W
16	15	Wire.....	... ...	... ...	11·82		W
18	18	... ...	... ...	... ...	11·82		T
20	19	Wire.....	... ...	... ...	11·96		G
22	0	α^2 Centauri.....	26 18 12·27	153 42 10·72	11·50		W

TABLE VIII.—*Continued.*

Zenith Points of the Transit-circle, 1856.

Day and Hour, 1856.		Object.	Circle Reading Direct.	Circle Reading Reflexion.	Seconds of observed Zenith Point.	Adopted Correction for Zenith Point.	Observer.
d	h		° ′ ″	° ′ ″	″	″	
Oct. 23	0	α^2 Centauri.....	26 18 12·04	153 42 10·67	11·36		W
25	0	α^2 Centauri.....	26 18 12·44	153 42 11·19	11·82	— 11·47	T
25	1	Wire.....	... ...	... ...	11·41		T
31	0	α^2 Centauri.....	26 18 9·76	153 42 12·68	11·22		W
31	0	Wire.....	... ...	... ...	11·03		W
Nov. 1	0	α^2 Centauri.....	26 18 10·07	153 42 13·90	11·99		T
2	0	Wire.....	... ...	... ...	11·13		T
5	9	... ...	... ...	... ...	11·17		W
5	23	α^2 Centauri.....	26 18 10·10	153 42 14·21	12·16		W
6	9	Wire.....	... ...	... ...	11·11		W
9		... ...	... ...	... ...	11·53		T
10	11	... ...	... ...	... ...	11·81	— 11·41	G
11	10	... ...	... ...	... ...	11·30		G
12	13	... ...	... ...	... ...	11·42		W
13	13	... ...	... ...	... ...	11·28		W
13	23	α^2 Centauri.....	26 18 7·34	153 42 14·95	11·15		W
14	23	Wire.....	... ...	... ...	10·97		T
14	23	α^2 Centauri.....	26 18 7·51	153 42 15·09	11·30		T
15	17	Wire.....	... ...	... ...	11·00		T
16	23	α^2 Centauri.....	26 18 6·48	153 42 15·01	10·75		T
16		Wire.....	... ...	... ...	10·92		T
17	20	... ...	... ...	... ...	11·15		G
17	23	α^2 Centauri.....	26 18 7·52	153 42 16·18	11·85	— 11·04	T
17	23	Wire.....	... ...	... ...	10·96		T
18	20	... ...	... ...	... ...	11·08		T
19	20	... ...	... ...	... ...	10·87		T
20	18	... ...	... ...	... ...	10·79		T
23	22	α^2 Centauri.....	26 18 2·82	153 42 16·42	9·62		G
24	22	α^2 Centauri.....	26 18 5·38	153 42 16·57	10·98		T
24		Wire.....	... ...	... ...	10·63	— 10·95	T
28	22	α^2 Centauri.....	26 18 6·01	153 42 17·03	11·52		T
28		Wire.....	... ...	... ...	10·75		T
Dec. 1		... ...	... ...	... ...	10·75		T
3	4	... ...	... ...	... ...	10·37		T
8	10	... ...	... ...	... ...	10·95		T
9	21	α^2 Centauri.....	26 18 4·48	153 42 18·01	11·25		T
9		Wire.....	... ...	... ...	10·92		T

TABLE VIII.—*Concluded.*

Zenith Points of the Transit-circle, 1856.

Day and Hour, 1856.	Object.	Circle Reading Direct.	Circle Reading Reflexion.	Seconds of observed Zenith Point.	Adopted Correction for Zenith Point.	Observer.
d h		° ′ ″	° ′ ″	″	″	
Dec. 13	Wire.....	... ...	... ...	10·72		W
14 16	... ...	... ...	... ...	10·50	— 10·81	G
15	... ...	... ...	... ...	10·93		W
19 21	α^2 Centauri.....	26 18 3·17	153 42 19·24	11·21		T
19 21	Wire.....	... ...	... ...	10·92		T
20 21	... ...	... ...	... ...	10·92		T
21 19	... ...	... ...	... ...	10·74		T
24 1	... ...	... ...	... ...	10·67		T
30	... ...	... ...	... ...	10·51		T

September 20th.—Shortly after the Transit of B.A.C. 2085 SP, the head of the Z.D. Micrometer-screw was struck by the back of the observing chair.

ROYAL OBSERVATORY,
CAPE OF GOOD HOPE.

SEPARATE RESULTS

FOR

MEAN N.P.D. OF STARS

OBSERVED IN THE YEAR

1856.

Day.	Observer.	° ′ ″
α Andromedæ.		
June 1	T	61 42 16·46
4	T	17·28
5	T	16·73
7	T	(24·60)
10	T	15·47
Sept. 25	W	15·78
26	T	18·62
27	T	15·83
Oct. 1	W	20·23
γ^2 Octantis S.P.		
May 27	W	−173 1 28·21
June 2	G	29·46
6	G	30·13
9	G	28·62
16	G	30·26
21	T	29·56
23	T	30·40
γ Pegasi.		
May 1	T	75 37 0·22
8	T	1·49
Oct. 2	W	1·77
10	W	0·67
o Octantis.		
June 16	T	179 9 49·01
26	T	48·44
28	T	49·28
30	T	49·24
July 2	T	48·88
3	T	48·68
4	T	49·07
6	T	49·18
7	T	47·89
10	T	49·13
o Octantis S.P.		
May 10	W	−179 9 50·22
June 7	W	49·32
June 9	G	49·23
16	G	49·44
17	T	49 48
23	T	50·24
26	T	49·86
28	T	49·82
29	T	49·66
30	T	48·94
July 1	T	50·25
2	T	49·72
3	T	49·48
β Hydri.		
Apr. 24	T	168 3 55·18
27	T	57·51
29	T	55·44
May 4	T	56·05
6	T	55·96
8	T	55·71
9	T	56·48
16	T	56·39
21	T	55·96
23	T	55·59
26	T	55·81
27	T	55·23
30	T	55·49
31	T	55·26
June 1	T	56·42
2	T	54·98
3	T	56·21
5	T	55·38
7	T	53·61
8	T	55·11
11	T	55·77
β Hydri S.P.		
May 12	G	−168 3 56·63
13	W	58·85
16	G	56·23
20	W	56·69
21	G	61·64
May 22	W	−168 3 56·86
23	G	55·91
24	W	55·06
27	W	55·17
29	W	55·71
30	G	56·35
31	W	56·12
June 1	T	55·06
2	G	56·81
3	T	55·67
4	T	56·01
5	W	55·74
6	G	55·53
7	W	55·69
8	T	55·67
9	G	54·74
12 Ceti.		
July 22	T	94 45 11·47
Oct. 1	W	11·83
2	W	11·40
3	W	12·40
10	W	10·78
13 Ceti.		
July 22	T	94 23 10·34
β Ceti.		
Apr. 16	T	108 46 38·86
20	G	39·68
22	G	39·74
24	T	38·64
27	T	39·24
29	T	38·83
30	G	39·45
May 1	T	38·82
2	G	38·28
4	T	(34·87)
5	G	38·50
6	T	38·66

Day.	Observer.	° ′ ″
β Ceti (*continued*).		
May 7	T	108 46 38·19
8	T	38·13
9	T	38·98
11	T	39·01
15	T	39·33
21	T	38·85
27	T	39·22
June 1	T	39·74
Aug. 18	G	39·37
Sept. 15	G	39·69
24	W	39·98
25	W	38·78
26	T	39·26
27	T	39·03
Oct. 2	W	40·14
6	G	38·29
10	W	38·46
11	W	38·40
Nov. 6	W	38·60
10	G	39·34
δ Piscium.		
Sept. 15	G	83 11 55·98
ε Piscium.		
July 22	T	82 53 10·40
Aug. 18	G	9·37
Nov. 9	T	9·21
e Piscium.		
July 22	T	85 6 48·79
Aug. 18	G	46·09
Nov. 10	G	47·02
θ Ceti.		
May 21	T	98 55 39·03
June 28	T	38·77
Oct. 4	T	40·68
μ Piscium.		
Sept. 15	G	84 35 58·70
16	G	58·78
η Piscium.		
June 26	T	75 23 50·93
π Piscium.		
Sept. 15	G	78 35 46·55
16	G	47·75
α Eridani.		
April 27	T	147 58 9·71
28	T	10·52
29	T	9·98
May 1	T	9·88
6	T	10·50
8	T	9·21
9	T	9·65
11	T	10·59
15	T	10·41
20	T	10·64
21	T	9·57
o Piscium.		
Oct. 14	G	81 34 6·64
Dec. 8	T	6·96
B.A.C. 554. S.P.		
June 6	G	— 169 52 27·04
9	G	26·77
11	G	27·37
23	G	26·45
B.A.C. 557. S.P.		
June 5	W	— 173 42 25·63
ζ Ceti.		
June 28	T	101 2 51·93
*** R.A. 1h. 46m. 13s.**		
July 18	G	175 29 41·62
19	G	40·68
22	T	42·04
*** R.A 1h. 46m. 13s. S.P.**		
June 14	W	— 175 29 41·53
July 12	G	42·35
19	G	42·48
22	T	42·67
23	W	42·56
β Arietis.		
July 6	T	69 53 50·76
7	T	51·02
10	T	50·81
Oct. 4	T	53·10
α Arietis.		
June 30	T	67 13 13·73
July 4	T	13·10
5	T	13·88
6	T	13·11
10	T	14·14
23	T	12·92
Aug. 4	G	11·54
Sept. 16	G	13·04
Nov. 10	G	13·83
11	G	14·19
ξ¹ Ceti.		
Oct. 14	G	81 49 51·50
θ Arietis.		
Nov. 10	G	70 46 2·10
11	G	2·17
ξ Arietis.		
Sept. 16	G	80 2 36·86

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γ Ceti.		
Oct. 14	G	87 22 24·11
15	W	23·28
μ Ceti.		
Sept. 16	G	80 29 47·10
ε Arietis.		
Oct. 14	G	69 14 16·94
15	W	17·30
Dec. 8	T	18·16
α Ceti.		
Jan. 15	T	86 28 39·85
May 20	T	39·14
27	T	40·77
Aug. 2	T	39·94
4	G	38·81
δ Arietis.		
Jan. 15	T	70 49 14·24
Oct. 14	G	14·36
15	W	14·28
Dec. 8	T	15·37
17 Tauri.		
Oct. 16	W	66 20 32·49
Nov. 12	W	34·95
Dec. 10	G	34·81
η Tauri.		
Feb. 13	T	66 20 37·09
Oct. 16	W	36·48
Nov. 12	W	37·62
Dec. 10	G	37·59
γ Hydri.		
Aug. 2	T	164 40 44·93
3	T	43·92
4	G	45·69
γ Hydri *(continued)*.		
Aug. 14	W	164 40 44·89
15	T	44·87
γ Hydri S.P.		
June 3	W	−164 40 46·37
23	G	45·43
Aug. 3	T	44·09
4	G	45·75
5	G	45·16
8	T	44·94
12	G	45·85
14	W	46·08
15	T	45·55
A¹ Tauri.		
Aug. 22	T	68 18 54·85
o¹ Eridani.		
Aug. 14	W	97 12 58·08
δ² Tauri.		
Sept. 18	W	72 53 36·57
ε¹ Tauri.		
Nov. 13	W	68 2 22·08
ε Tauri.		
Feb. 13	T	71 8 33·22
14	T	33·49
Aug. 20	W	32·95
Nov. 12	W	33·60
13	W	33·51
α Tauri.		
Mar. 26	T	73 47 2·37
April 3	T	2·24
16	T	2·72
α Tauri *(continued)*.		
May 9	T	73 47 2·50
21	T	3·15
22	T	3·72
June 6	G	1·93
13	G	3·26
27	T	2·43
29	T	2·37
30	T	3·17
July 1	T	3·32
2	T	3·04
4	T	2·22
6	T	2·41
7	T	2·17
9	T	1·87
10	T	2·49
11	T	2·37
Aug. 1	T	4·31
2	T	2·60
4	G	2·16
14	W	3·33
Sept. 18	W	3·00
19	T	1·22
Nov. 12	W	2·06
13	W	2·11
Dec. 10	G	3·68
24	T	2·61
δ Mensæ.		
Aug. 16	T	170 32 46·86
20	W	46·57
22	T	46·05
23	T	47·08
δ Mensæ S.P.		
Aug. 15	T	−170 32 47·02
16	T	47·67
17	T	47·60
18	G	46·77
20	W	46·85
22	T	47·32
23	T	47·46
24	T	47·53

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ι Tauri.		
Jan. 17	T	68 37 12·06
18	G	8·91
Dec. 10	G	13·20
l Tauri.		
Jan. 18	G	69 46 30·31
B.A.C. 1587.		
Sept. 4	W	165 9 21·11
B.A.C. 1587 S.P.		
Aug. 30	T	−165 9 21·80
Sept. 3	W	22·52
5	T	22·79
6	T	22·17
ε Leporis.		
Aug. 13	W	112 34 2·79
20	W	2·33
Sept. 18	W	3·17
β Orionis.		
Jan. 7	G	98 22 13·93
8	G	17·45
9	G	15·79
10	G	15·70
14	G	16·50
15	G	16·29
18	G	16·08
19	G	16·36
25	G	17·24
26	G	16·03
28	G	16·85
29	G	15·93
30	G	16·45
31	G	16·08
Feb. 1	G	14·94
2	G	16·96
β Orionis *(continued)*.		
Feb. 4	G	98 22 16·01
5	G	16·25
12	G	15·77
13	G	16·70
14	G	17·16
15	G	17·51
Mar. 26	T	16·87
28	T	17·40
April 3	T	16·53
9	T	16·90
14	T	16·73
May 7	T	16·76
21	T	16·96
22	T	17·06
June 3	T	17·57
4	T	17·62
27	T	16·80
July 3	T	17·35
7	T	17·36
9	T	17·00
10	T	16·94
16	T	17·22
17	T	16·46
18	T	16·42
23	T	15·38
Aug. 13	W	17·26
16	T	16·80
22	T	17·38
29	T	17·77
Sept. 13	T	16·29
18	W	16·58
Dec. 24	T	16·30
β Tauri.		
Feb. 14	T	61 31 6·98
15	T	6·95
July 9	T	6·33
16	T	6·46
Aug. 16	T	6·31
22	T	7·78
Sept. 19	T	9·07
β Tauri *(continued)*.		
Sept. 20	T	61 31 7·68
Nov. 13	W	6·88
Dec. 10	G	7·54
δ Orionis.		
Jan. 7	G	90 24 33·55
8	G	33·47
9	G	33·33
10	G	34·13
11	G	32·55
14	G	34·39
15	G	32·52
Mar. 19	T	33·71
April 16	T	33·64
June 22	T	33·73
27	T	33·57
July 16	T	33·65
17	T	33·62
18	T	33·49
Aug. 13	W	33·81
16	T	33·54
22	T	34·62
23	T	33·84
29	T	33·49
Sept. 20	T	35·05
α Leporis.		
June 30	T	107 55 43·27
ε Orionis.		
July 9	T	91 17 50 81
11	T	51·72
19	T	51·18
Aug. 1	T	51·42
10	T	50·64
ζ Tauri.		
Nov. 13	W	68 56 57·62

Day.	Obs.	° ′ ″
α Columbæ.		
Mar. 19	T	124 9 11·38
26	T	12·03
28	T	11·86
April 3	T	11·60
14	G	12·04
16	T	11·49
28	T	11·47
May 12	T	11·61
June 27	T	12·04
July 9	T	12·37
10	T	12·13
16	T	11·70
17	T	12·26
18	T	11·32
19	T	11·28
Aug. 8	T	10·61
16	T	11·88
22	T	12·10
23	T	11·54
27	W	12·26
29	T	10·90
136 Tauri.		
Jan. 18	G	62 25 33·73
α Orionis.		
Jan. 4	T	82 37 25·07
7	G	26·32
8	G	24·32
9	G	24·78
10	G	24·09
14	G	24·40
15	G	24·47
19	G	24·77
25	G	23·48
26	G	25·75
28	G	25·11
29	G	25·41
30	G	26·18
31	G	26·09
Feb. 1	G	82 37 24·99
2	G	24·72
4	G	25·71
5	G	24·06
11	G	24·08
12	G	25·40
13	G	26·47
14	G	23·62
15	G	24·29
16	G	24·77
19	G	25·30
22	G	24·94
28	G	24·05
Mar. 19	T	25·20
28	T	25·44
April 3	T	24·92
9	T	25·31
14	G	26·34
16	T	24·99
26	T	25·84
28	T	26·18
May 3	T	25·86
7	T	25·55
9	T	25·05
12	T	24·42
16	T	25·38
21	T	25·57
22	T	24·89
28	T	24·40
June 2	T	26·51
22	T	25·46
27	T	26·25
30	T	25·52
July 10	T	25·66
11	T	25·38
16	T	24·62
17	T	25·40
18	T	25·02
19	T	25·06
Aug. 1	T	25·29
3	T	24·74
8	T	25·42
Aug. 10	T	82 37 24·55
15	T	24·29
16	T	25·29
22	T	25·75
23	T	25·79
29	T	26·55
η Geminorum.		
Feb. 15	T	67 27 20·09
κ Aurigæ.		
Jan. 18	G	60 27 13·05
19	T	12·36
μ Geminorum.		
Feb. 16	G	67 24 58·96
Sept. 21	T	60·31
Nov. 15	T	60·82
B.A.C. 2085.		
Feb. 7	G	175 55 6·46
8	G	4·94
9	G	6·75
11	G	6·42
12	G	6·44
B.A.C. 2085. S.P.		
Sept. 20	T	−175 55 7·19
α Argûs.		
April 30	T	142 37 6·19
May 16	T	6·03
21	T	6·53
22	T	7·74
π^3 Doradus.		
Feb. 13	G	159 36 25·74
14	G	25·75

Day.	Observer.	° ′ ″
π^3 Doradus *(continued)*.		
Feb. 18	G	159 36 25·88
25	G	25·44
26	G	25·70
ϵ Geminorum.		
Jan. 19	T	64 43 50·50
20	T	51·66
Feb. 15	T	50·58
16	G	48·64
Sept. 21	T	50·91
Nov. 15	T	49·43
α Canis Majoris.		
Jan. 18	G	106 31 16·45
Feb. 7	G	17·08
8	G	16·77
9	G	16·55
11	G	17·27
12	G	17·78
13	G	18·03
17	G	16·96
18	G	16·74
Apr. 17	T	17·30
27	T	17·06
28	T	17·66
30	T	16·65
May 3	T	17·14
5	T	18·46
16	T	17·28
21	T	17·11
22	T	16·91
31	T	17·53
June 11	T	17·60
27	T	17·27
July 2	T	17·14
7	T	17·52
9	T	17·11
14	T	17·68
22	T	16·93
Aug. 8	T	17·27
15	T	17·08

Day.	Observer.	° ′ ″
ζ Mensæ.		
Feb. 7	G	170 39 20·04
8	G	19·83
9	G	20·70
11	G	19·93
12	G	20·16
ϵ Canis Majoris.		
Feb. 18	G	118 46 42·88
23	G	43·12
25	G	43·63
26	G	43·33
27	G	42·84
29	G	42·05
Mar. 1	G	43·78
4	G	41·47
6	G	41·75
7	G	43·06
8	G	43·38
10	G	41·90
12	G	43·17
13	G	43·20
15	G	43·02
April 17	T	43·65
27	T	43·81
28	T	43·02
May 3	T	43·24
7	T	43·62
16	T	43·12
21	T	43·91
22	T	44·58
31	T	43·83
July 7	T	43·99
9	T	44·62
22	T	42·91
Aug. 8	T	42·94
15	T	42·82
19	G	43·56
Sept. 19	T	42·15
ζ Geminorum.		
Jan. 19	T	69 13 21·12
20	T	22·46
Apr. 11	T	21·75

Day.	Observer.	° ′ ″
δ Geminorum.		
Feb. 16	G	67 45 23·09
17	G	23·13
Mar. 14	G	23·59
15	G	25·54
ι Geminorum.		
Feb. 16	G	61 55 10·92
17	G	12·85
Mar. 14	G	12·01
15	G	11·03
Dec. 13	W	10·68
δ Volantis.		
Feb. 13	G	157 41 35·24
15	G	36·10
25	G	36·30
26	G	36·63
28	G	35·97
α^2 Geminorum.		
Apr. 11	T	57 47 60·07
Sept. 21	T	59·98
α Canis Minoris.		
Mar. 10	G	84 24 34·65
27	T	34·35
April 28	T	35·90
May 7	T	33·82
16	T	33 83
21	T	33·90
22	T	34·63
July 22	T	33·83
Aug. 3	T	32·85
Sept. 21	T	33·94
Oct. 20	G	33·94
β Geminorum.		
April 11	T	61 37 47·83
Sept. 21	T	47·34
Nov. 15	T	45·94

Day.	Observer.	° ′ ″
φ Geminorum.		
Mar. 15	G	62 51 57·70
16	T	55·02
Lalande 15898.		
Dec. 14	G	64 1 22·11
15 Argûs.		
Feb. 7	G	113 53 30·73
9	G	29·32
11	G	29·30
12	G	30·68
13	G	29·89
14	G	29·91
16	G	29·96
19	G	29·80
20	G	29·41
25	G	29·40
26	G	29·78
27	G	30·11
28	G	31·18
29	G	30·96
Mar. 17	G	29·80
27	G	29·95
28	G	30·13
Apr. 3	G	30·37
7	G	30·43
8	G	30·08
10	G	29·50
11	G	31·73
29	G	30·44
May 5	T	30·89
21	T	30·23
22	T	30·74
ψ² Cancri.		
Feb. 17	G	64 3 35·97
18	G	32·20
Mar. 15	G	33·86
16	T	33·49
Dec. 13	W	34·36

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A Octantis.		
Mar. 1	G	178 26 36·15
12	G	36·49
13	G	38·31
18	T	36·97
27	G	36·11
28	G	36·69
Apr. 3	G	34·86
7	G	37·29
8	G	36·36
10	G	36·77
A Octantis S.P.		
Oct. 1	W	−178 26 36·91
3	W	37·02
6	G	38·01
9	T	38·68
10	W	37·42
11	W	37·19
14	G	38·61
θ Cancri.		
Apr. 13	T	71 25 21·88
Dec. 13	W	17·91
14	G	17·67
θ Chamæleontis.		
Feb. 25	G	167 1 4·92
26	G	3·17
27	G	5·70
28	G	4·47
29	G	4·69
γ Cancri.		
Feb. 17	G	68 0 60·96
18	G	58·65
19	G	59·46
Apr. 13	T	60·06
Nov. 17	G	59·14

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δ Cancri.		
Mar. 16	T	71 19 8·89
17	G	9·74
ε Hydræ.		
Dec. 13	W	83 3 20·47
ξ Cancri.		
Feb. 18	G	67 22 30·20
19	G	28·79
Mar. 17	G	29·03
May 10	T	29·93
Dec. 14	G	29·17
15	W	30·64
*** R.A. 9h 10m 40s.**		
Jan. 7	W	80 5 54·54
8	W	55·50
9	W	55·88
14	W	54·55
83 Cancri.		
May 1	G	71 41 11·24
5	T	11·30
Dec. 15	W	14·54
β Argûs.		
Mar. 10	G	159 7 26·55
13	G	28·30
24	G	27·60
ζ Octantis.		
Apr. 7	G	175 4 47·04
8	G	45·91
10	G	46·71
11	G	47·61
29	G	48·59
May 20	T	47·87
21	T	47·28

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ζ Octantis S.P.		
May 20	T	— 175 4 50·71
21	T	47·78
22	T	51·35
α Hydræ.		
Jan. 7	W	98 2 11·46
8	W	11·62
9	W	11·15
14	W	10·40
Feb. 28	G	10·46
Mar. 1	G	11·76
4	G	11·59
7	G	13·69
8	G	11·19
10	G	9·72
12	G	12·48
13	G	12·72
15	G	10·87
18	T	11·90
24	G	10·95
April 17	G	11·91
24	G	10·90
25	G	11·62
26	G	11·37
28	G	11·61
30	G	12·03
May 1	G	10·82
2	G	10·99
5	G	11·98
6	G	10·86
λ Leonis.		
Feb. 18	G	66 23 57·47
19	G	57·14
April 13	T	57·32
14	G	58·16
May 10	T	56·76
Nov. 17	G	57·61
Dec. 14	G	57·02
15	W	59·06

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ι Chamæleontis.		
Mar. 27	G	170 9 47·43
April 7	G	47·40
8	G	46·48
10	G	47·68
11	G	47·64
*** R.A. 9h 31m 50s.**		
Jan. 7	W	83 9 42·27
8	W	41·11
9	W	42·98
10	W	43·16
14	W	42·97
ε Leonis.		
Mar. 17	G	65 33 52·99
18	T	52·23
April 13	T	53·25
Nov. 18	T	53·23
ζ Chamæleontis.		
Mar. 28	G	170 17 34·95
April 2	G	34·03
8	G	33·78
10	G	33 60
17	G	35·72
W.B. IX. 888.		
Jan. 7	W	84 22 34·02
8	W	33·34
9	W	33·05
10	W	33·67
*** R.A. 9h 48m 8s.**		
Jan. 7	W	85 29 20·63
8	W	22·25
9	W	20·72
14	W	20·75
π Leonis.		
April 30	G	81 15 59·12

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*** R.A. 9h 55m 16s.**		
Jan. 7	W	[86 47 34·79
8	W	36·26
9	W	35·73
10	W	36·55
η Leonis.		
Mar. 17	G	72 32 12·76
18	T	11·66
May 11	T	13·11
12	G	11·16
α Leonis.		
Jan. 7	W	77 19 50·19
8	W	50·37
9	W	50·18
10	W	50·58
14	W	49·27
Feb. 19	G	50·72
Apr. 14	G	50·69
15	G	50·85
Sept. 25	W	49·87
Oct. 2	W	50·22
Nov. 17	G	49·92
19	T	50·25
20	T	49·87
μ^1 Chamæleontis.		
May 1	G	171 30 59·68
2	G	58·85
3	G	60·04
5	G	60·08
6	G	60·09
μ^2 Chamæleontis.		
May 14	G	170 51 47·96
16	G	48·59
ω Argûs.		
Apr. 28	G	159 19 23·66
29	G	24·20

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ω Argûs *(continued.)*		
May 1	G	159 19 24·25
2	G	24·85
3	G	25·01
γ^1 Leonis.		
Feb. 19	G	69 25 52·37
Apr. 30	G	54·56
May 11	T	54·67
12	G	54·67
Nov. 19	T	53·66
24 Sextantis.		
Jan. 7	W	90 10 27·00
8	W	26 98
9	W	27·29
10	W	26·70
14	W	26·39
44 Leonis.		
Mar. 18	T	80 29 4·34
19	T	4·15
ρ Leonis.		
Mar. 18	T	79 57 13·08
19	T	13·55
Apr. 14	G	13·19
15	G	12·59
30	G	12·81
June 9	T	12·85
*** R.A. $10^h\ 32^m\ 30^s$.**		
Jan. 7	W	92 46 23·12
8	W	23·57
9	W	22·39
10	W	22·79
14	W	22·21
η Argûs.		
Mar. 20	T	148 55 41·64
May 9	T	41·51

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*** R.A. $10^h\ 39^m\ 31^s$.**		
Jan. 7	W	93 57 23·97
8	W	24·50
9	W	24·85
10	W	24·10
δ^1 Chamæleontis.		
April 24	G	169 42 33·14
25	G	34·96
May 1	G	33·15
3	G	33·52
6	G	34·13
δ^2 Chamæleontis.		
May 10	W	169 46 52·09
14	G	50·76
16	G	49·45
21	G	51·24
23	T	51·17
***c* Leonis.**		
May 13	W	83 7 32·57
*** R.A. $10^h\ 55^m\ 48^s$.**		
Jan. 8	W	96 26 50·94
9	W	50 58
10	W	50·72
18	W	51·41
χ Leonis.		
Jan. 24	W	81 53 10·29
25	W	10·02
Apr. 15	G	9·22
30	G	11·12
May 12	G	10·11
13	W	11·18
η Octantis.		
April 24	G	173 49 7·29
25	G	8·35

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η Octantis *(continued)*.		
May 14	G	173 49 8·88
16	G	8·59
21	G	10·02
*** R.A. $11^h\ 3^m\ 49^s$.**		
Jan. 7	W	97 27 45·22
8	W	45·11
9	W	44·87
14	W	44·21
δ Leonis.		
Nov. 20	T	68 41 15·93
ν Leonis.		
Mar. 19	T	75 54 26·34
20	T	26·22
δ Crateris.		
Jan. 7	W	103 59 58·90
8	W	58·57
9	W	58·93
10	W	58·52
14	W	58·10
18	W	58·22
April 29	G	57·36
May 3	G	58·64
8	W	59·67
10	W	59·13
12	G	58·49
13	W	58·24
20	W	59·05
21	G	58·48
22	W	58·29
23	G	59·00
28	G	56·92
29	W	58·29
30	G	58·33
June 15	W	59·04

Day.	Observer.	° ′ ″
σ Leonis.		
Jan. 25	W	83 10 55·21
Apr. 15	G	55·33
ε Leonis.		
Mar. 19	T	78 40 40·82
20	T	40·31
June 9	T	39·90
10	T	40·74
*** R.A. 11ʰ 19ᵐ 2ˢ.**		
Jan. 7	W	99 57 20·83
8	W	20·94
9	W	20·63
10	W	20·18
τ Leonis.		
May 13	W	86 21 4·10
14	G	3·35
W.B. XI. 475.		
Jan. 7	W	101 17 34·42
8	W	34·13
9	W	34·23
10	W	33·78
υ Leonis.		
May 20	W	90 1 44·01
June 6	T	44·28
7	T	43·36
17	T	43·86
*** R.A. 11ʰ 36ᵐ 44ˢ.**		
Jan. 7	W	102 19 58·84
8	W	59·43
9	W	59·50
10	W	58·46
18	W	58·99

Day.	Observer.	° ′ ″
ν Virginis.		
Jan. 25	W	82 39 49·08
26	G	50·39
Feb. 22	W	48·95
Apr. 16	T	48·79
17	T	49·46
β Leonis.		
Jan. 8	W	74 37 22·18
10	W	23·49
18	W	22·18
June 17	T	21·85
β Virginis.		
Jan. 25	W	87 25 26·02
26	G	26·18
Feb. 21	G	23·89
22	W	24·90
Apr. 16	T	26·01
17	T	26·33
May 13	W	25·57
14	G	25·96
June 10	T	25·91
11	T	25·47
γ Ursæ Majoris.		
June 26	T	35 29 53·29
b Virginis.		
Mar. 20	T	85 32 33·50
π Virginis.		
June 10	T	82 34 56·97
11	T	56 24
10 Virginis.		
Feb. 22	W	87 17 34·48
May 14	G	36·20

Day.	Observer.	° ′ ″
ε Corvi.		
Apr. 30	G	111 49 7·79
June 7	W	6·71
8	T	6·50
β Chamæleontis.		
May 12	G	168 30 (49·79)
13	W	42·60
16	G	44·42
20	W	44·11
21	G	44·37
23	G	44·89
27	W	45·32
30	G	44·53
31	W	43·82
June 2	G	44·71
6	G	43·60
η Virginis.		
Jan. 25	W	89 51 58·36
Feb. 12	W	57·32
14	W	57·99
22	W	55 99
Mar. 20	T	56·80
April 17	T	57·66
May 14	G	58·03
Lalande 23305.		
Jan. 18	W	107 48 43·71
25	W	43·60
Feb. 7	W	44·18
8	W	43·83
14	W	44·79
β Corvi.		
Jan. 18	W	112 35 58·72
25	W	58·50
27	G	60·21
Feb. 14	W	59·41
16	W	58·75
21	G	58·80

Day.	Observer.	° ′ ″
β Corvi *(continued.)*		
Feb. 22	W	112 35 58·49
Mar. 27	G	58·90
28	G	59·68
Apr. 1	G	60·73
7	G	58·88
8	G	59·60
10	G	59·36
14	G	59·22
15	G	58·39
May 8	W	59·20
14	G	59·28
16	G	58·27
20	W	58·59
21	G	58·61
22	W	58·99
23	G	58·57
24	W	60·10
29	W	59·18
30	G	58·67
June 2	G	59·01
5	W	58·14
6	G	59·09
10	W	58·93
13	G	58·90
Dec. 22	T	57·59
B.A.C. 4237.		
Apr. 21	W	90 36 47·62
24	W	48·19
26	W	47·64
28	W	48·12
29	W	47·91
30	W	47·95
May 1	W	47·19
*** R.A. 12h 28m 25s.**		
Feb. 8	W	108 46 6·03
12	W	6·73
13	W	5·82
15	W	6·01

Day.	Observer.	° ′ ″
*** Octantis. R.A. 12h 28m 58s.**		
May 10	W	179 0 30·10
June 7	W	28·88
16	G	28·18
17	T	28·31
21	T	29·00
23	T	28·03
28	T	27·72
29	T	29·10
30	T	28·59
July 1	T	28·04
2	T	28·52
3	T	28·40
4	T	28·83
5	T	28·37
6	T	29·11
8	T	27·75
*** Octantis. R.A. 12h 28m 58s. S.P.**		
June 16	T	− 179 0 28·28
26	T	30·62
28	T	28·56
30	T	28·95
July 2	T	28 99
3	T	28·85
4	T	28·95
5	T	28·70
6	T	28·22
7	T	28·67
10	T	28·63
γ^1 Virginis.		
Jan. 27	G	90 39 27·67
April 22	W	30·73
26	W	30·15
γ Virginis (as one mass).		
Jan. 26	G	90 39 32·43
April 21	W	32·55
24	W	32·42
28	W	31·76
29	W	31·94

Day.	Observer.	° ′ ″
γ Virginis (as one mass) *(cont.)*		
April 30	W	90 39 31·34
May 1	W	31·77
June 11	T	31·42
γ^2 Virginis.		
April 22	W	90 39 33·95
26	W	33·95
*** R.A. 12h 35m 2s.**		
Feb. 7	W	109 44 28·98
8	W	28·03
12	W	29·31
14	W	28·67
15	W	28·27
B.A.C. 4277.		
Apr. 16	W	90 47 2·25
17	W	2·43
19	W	2·34
ι Octantis.		
May 13	W	174 20 21·27
28	G	21·50
June 3	W	22·72
5	W	23·22
10	W	23·34
*** R.A. 12h 44m 32s.**		
Feb. 8	W	110 38 52·55
13	W	53·37
15	W	52·98
Mar. 15	W	53·61
38 Virginis.		
Jan. 26	G	92 46 11·45
27	G	9·97
April 10	W	10·66
12	W	10·82
14	W	10·52
15	W	11·00

Day.	Observer.	° ′ ″
38 Virginis *(continued.)*		
April 16	W	92 46 10·37
17	W	9·60
ψ Virginis.		
May 16	G	98 45 20·53
ϑ Virginis.		
June 11	T	85 49 8·83
12 Canum Venaticorum.		
June 3	W	50 54 9·59
7	W	9·72
17	T	10·40
k Virginis.		
Mar. 24	W	93 2 3·15
27	W	2·11
April 12	W	2·58
14	W	2·96
15	W	2·12
*** R.A. 12h 52m 50s.**		
Feb. 8	W	111 34 23·24
12	W	22·08
13	W	23·06
14	W	23·59
16	W	21·37
46 Virginis.		
Mar. 28	W	92 35 35·31
April 3	W	35·53
48 Virginis.		
Mar. 24	W	92 53 14·45
27	W	13·84
29	W	13·40

Day.	Observer.	° ′ ″
ψ Hydræ.		
Feb. 7	W	112 20 48·14
8	W	47·73
12	W	48·25
16	W	48·13
ϑ Virginis.		
Feb. 14	W	94 46 8·05
15	W	8·02
Mar. 12	W	8·50
16	W	8·45
17	W	8·05
20	W	7·32
28	W	7·86
29	W	7·57
April 1	W	8·82
3	W	8·60
19	T	8·05
May 13	W	7·69
16	G	8·25
20	W	7·50
27	W	8·11
31	W	8·63
June 3	W	7·42
7	W	7·93
July 10	T	7·58
*** R.A. 13h 9m 42s.**		
Feb. 7	W	113 7 11·60
8	W	12·51
12	W	11·84
13	W	10·75
16	W	10·71
B.A.C. 4460.		
June 5	W	175 4 32·92
7	W	32·83
11	G	33·22
23	G	32·32
30	T	32·35
July 2	T	32·16

Day.	Observer.	° ′ ″
B.A.C. 4460. S.P.		
June 29	T	−175 4 32·53
30	T	32·02
B.A.C. 4473.		
Feb. 14	W	95 26 28·12
15	W	27·99
65 Virginis.		
Mar. 18	W	94 10 10·40
20	W	10·29
66 Virginis.		
Feb. 27	W	94 24 34·49
28	W	35·04
29	W	35·37
Mar. 1	W	35·38
16	W	36·01
17	W	35·74
a Virginis.		
Jan. 1	T	100 24 28·10
2	T	28·27
3	T	29·13
26	G	28·68
27	G	28·24
28	G	29·69
Feb. 7	W	28·91
8	W	28·86
12	W	29·51
13	W	28·30
21	W	29·38
22	W	28·85
25	W	28·98
26	W	30·64
Mar. 27	W	28·51
28	W	29·29
29	W	29·11
April 1	W	29·95
3	W	29·09
19	T	29·85

Day.	Observer.	° ′ ″
α Virginis *(continued)*.		
May 5	G	100 24 28·01
12	G	28·24
13	W	28·77
14	G	30·19
22	W	29·78
24	W	29·74
23	W	29·27
31	W	29·81
June 3	W	29·68
9	G	30·76
10	W	29·86
14	W	28·89
16	G	28·12
17	W	28·53
21	W	29·87
July 10	T	29·10
Sept. 20	T	29·12
26	T	29·15
27	T	28·63
Oct. 2	W	28·32
Nov. 20	T	28·69
Dec. 21	T	28·57
22	T	28·67
κ Octantis.		
June 5	W	175 2 36·85
7	W	37·24
11	G	36·89
23	G	37·21
30	T	36·11
July 2	T	36·91
3	T	36·82
4	T	37·05
5	T	36·72
6	T	37·13
7	T	37·22
8	T	36·88
11	T	37·18
12	G	36·93
19	G	36·93
21	T	36·84
22	T	36·83
κ Octantis S P.		
June 29	T	−175 2 36·78
30	T	36·02
July 2	T	37·38
4	T	37·22
5	T	36·97
6	T	36·11
7	T	37·08
10	T	36·83
18	G	37·40
22	T	36·51
l^1 Virginis.		
Feb. 16	W	95 43 30·45
19	W	32·68
21	W	30·43
22	W	29·65
25	W	30·81
26	W	30·88
Mar. 15	W	31·18
16	W	30·73
17	W	31·25
18	W	31·62
20	W	31·29
l^2 Virginis.		
Feb. 27	W	95 30 38 20
28	W	37·75
29	W	37·60
Mar. 1	W	37·63
12	W	38·58
ζ Virginis.		
Jan. 27	G	89 51 27·01
28	G	28·19
Feb. 8	W	29·44
12	W	28·63
13	W	28·03
May 16	G	27·19
81 Virginis (1st Star.)		
Feb. 14	W	97 8 7·62
15	W	8·23
81 Virginis (as one mass.)		
Feb. 19	W	97 8 8·42
21	W	7·39
22	W	7·06
25	W	7·60
26	W	7·82
Mar. 11	W	7·83
12	W	8·00
15	W	6·57
***m* Virginis.**		
May 16	G	97 58 28·24
86 Virginis.		
Feb. 25	T	101 42 10·79
*** R.A. 13h 40m 57s.**		
Feb. 12	W	115 56 13·09
13	W	12·28
14	W	10·87
15	W	11·37
16	W	11·91
η Ursæ Majoris.		
June 7	W	39 57 59·53
17	W	52·22
89 Virginis.		
July 10	T	107 24 55·27
11	T	52·95
η Böotis.		
July 21	T	70 52 42·66

Day.	Observer.	° ′ ″
θ Apodis.		
June 11	G	166 5 52·91
16	G	53·34
21	W	53·43
23	G	51·97
β Centauri.		
May 3	T	149 40 31·68
16	G	30·44
22	W	30·99
28	G	31·73
June 3	W	31·95
28	T	31·49
B.A.C. 4700.		
July 10	T	105 37 9·78
11	T	9·66
δ Octantis.		
June 5	W	173 0 4·99
7	W	6·27
11	G	5·85
16	G	5·79
23	G	5·32
ε Apodis.		
May 28	G	169 26 20·34
30	G	20·90
June 10	W	20·52
17	W	19·55
κ Virginis.		
Mar. 24	T	99 36 3·95
Apr. 19	T	4·97
20	T	4·17
June 14	W	3·35
α Böotis.		
July 3	T	70 3 57·27
4	T	56·87
α Böotis *(continued)*.		
July 5	T	70 3 57·69
Sept. 10	W	57·18
20	T	56·65
21	T	57·05
Nov. 13	W	56·03
20	T	55·97
Dec. 7	T	57·23
20	T	55·62
λ Virginis.		
Jan. 28	G	102 42 21·54
29	G	22·65
Mar. 24	T	23·12
Apr. 19	T	21·41
20	T	20·92
June 14	W	20·55
ζ Octantis.		
May 31	W	177 32 48·83
June 3	W	48·93
5	W	48·38
7	W	49·14
9	G	48·01
10	W	49·19
11	G	50·02
16	G	49·99
17	W	48·87
21	W	49·86
23	G	49·84
July 10	T	50·88
18	G	49·23
19	G	48·73
21	T	48·82
22	T	48·65
23	W	48·32
30	T	49·04
Aug. 1	T	48·36
2	T	49·12
3	T	49 35
4	G	48·80
5	G	48·43
ζ Octantis. S.P.		
July 18	G	— 177 32 50·62
19	G	49·55
22	T	50·19
Aug. 2	T	49·10
3	T	51·85
4	G	48·96
α^2 Centauri.		
Jan. 3	T	150 14 18·07
Feb. 1	T	17·87
Mar 27	T	18·08
May 3	T	19·05
6	T	18·69
27	W	19·59
28	G	18·72
30	G	18·38
31	W	19·46
June 2	G	18·27
5	W	18·93
10	W	19·04
17	W	18·44
23	G	17·21
28	W	18·64
30	G	17·69
July 1	W	18·81
2	G	18·23
3	W	18·84
7	G	17·43
8	W	18·57
Aug. 30	T	18·32
Sept. 3	W	18·31
5	T	17·90
6	T	18·11
8	G	18·28
10	W	17·97
11	W	18·49
15	G	18·53
16	G	17·79
22	G	17·63
25	W	18·02
26	T	18·07
Oct. 3	W	17·50

Day.	Observer.	° ′ ″
α^2 Centauri *(continued)*.		
Oct. 4	T	150 14 17·90
6	G	16·84
8	G	16·32
15	W	17·87
16	W	17·31
22	W	17·52
23	W	17·09
25	T	17·93
31	W	18·02
Nov. 1	T	17·58
5	W	18·12
13	W	17·77
14	T	18·03
16	T	17·75
17	T	17·86
23	G	16·58
24	T	17·55
28	T	17·91
Dec. 1	T	17·90
9	T	18·79
19	T	18·50
5 Libræ.		
Feb. 25	T	104 50 58·68
26	T	58·13
July 11	T	58·97
12	W	58·34
ϵ Böotis.		
July 21	T	62 18 58·49
B.A.C. 4883.		
June 23	G	172 27 6·02
Aug. 3	T	6·84
4	G	6·41
5	G	5·82
8	T	7·35
B.A.C. 4883 S.P.		
Aug. 3	T	−172 27 8·61
4	G	7·36
8	T	9·50

Day.	Observer.	° ′ ″
α Libræ.		
Jan. 29	G	105 26 24·09
30	G	25·81
Feb. 16	W	24·93
21	W	25·17
25	T	25·49
26	T	24·82
April 20	T	26·08
21	T	25·93
May 27	W	25·70
28	G	28·68
30	G	26·25
31	W	25·93
June 2	G	25·36
3	W	25·20
5	W	25·49
7	W	25·50
9	G	24·84
11	G	25·80
14	W	25·56
15	G	24·08
17	W	25·43
28	W	26·31
July 1	W	25·93
10	T	25·98
11	T	25·78
12	W	25·89
18	G	25·01
19	G	25·92
21	T	25·26
22	T	26·17
23	W	25·82
20 Libræ.		
Jan. 30	G	114 42 47·16
April 20	T	46·72
21	T	47·31
ψ Böotis.		
June 5	W	62 29 18·61
July 22	T	17·23

Day.	Observer.	° ′ ″
ν^1 Libræ.		
June 15	G	105 41 42·66
μ Lupi.		
July 8	W	137 20 27·84
B.A.C. 5029.		
July 8	W	137 20 42·90
β Libræ.		
May 6	T	98 50 54·96
31	W	54·61
June 7	W	54·37
10	W	54·65
28	W	54·14
30	G	55·74
July 1	W	54·71
2	G	54·55
7	G	54·37
12	W	53·92
22	T	55·58
23	W	55·58
30	T	54·25
Aug. 18	G	55·54
19	G	54·04
ρ Octantis.		
June 9	G	173 58 17·83
Aug. 2	T	17·83
3	T	18·15
4	G	17·43
5	G	17·45
8	T	17·37
12	G	18·27
14	W	17·61
15	T	18·19
ρ Octantis S.P.		
Aug. 1	T	−173 58 17·99
2	T	17·60

Day.	Observer.	° ′ ″
ρ Octantis S.P. *(continued).*		
Aug. 3	T	— 173 58 19·85
4	G	18·15
8	T	(21·64)
13	W	19·13
ζ¹ Libræ.		
Feb. 26	T	106 12 38·28
ζ² Libræ.		
July 5	W	106 6 42·70
B.A.C. 5107.		
July 8	W	165 36 3·08
ζ⁴ Libræ.		
July 3	W	106 21 39·46
α Coronæ Borealis.		
June 3	W	62 47 51·85
5	W	52·34
6	G	54·77
28	W	52·21
30	G	52·20
July 7	G	52·37
Aug. 2	T	52·78
η Libræ.		
Feb. 26	T	105 12 36·75
27	T	36·22
July 12	W	38·23
α Serpentis.		
May 31	W	83 7 4·96
June 3	W	5·13
5	W	5·19
7	W	5·26
10	W	5·86
α Serpentis *(continued).*		
June 19	W	83 7 4·61
30	G	5·18
July 1	W	5·17
7	G	5·36
B.A.C. 5197.		
July 5	W	114 15 32·53
B.A.C. 5217.		
July 8	W	154 42 40·56
β Trianguli Austr.		
June 28	W	152 58 49·33
λ Libræ.		
July 12	W	109 43 57·33
ρ Scorpii.		
April 21	T	118 47 22·80
22	T	21·72
π Scorpii.		
Jan. 30	G	115 41 42·81
31	G	43·98
June 16	G	43·40
Aug. 10	T	43·33
δ Scorpii.		
April 22	T	112 12 28·35
Sept. 6	T	27·72
B.A.C. 5309.		
July 3	W	85 9 58·80
β¹ Scorpii.		
Jan. 6	G	109 24 24·92
30	G	26·33
β¹ Scorpii *(continued).*		
Jan. 31	G	109 24 25·89
May 6	T	25·69
20	W	26·40
June 3	W	26·22
5	W	26·56
7	W	26·40
11	G	26·20
15	G	27·23
16	G	25·77
23	G	27·16
July 2	G	26·58
7	G	26·74
11	G	26·04
12	W	26·43
Aug. 10	T	25·50
14	W	26·30
δ¹ Apodis.		
July 8	W	168 19 22·41
10	W	22·52
δ² Apodis.		
July 8	W	168 17 42·56
10	W	43·24
B.A.C. 5384.		
July 5	W	147 32 23·60
δ Ophiuchi.		
June 5	W	93 19 11·74
6	G	11·85
9	G	11·52
10	W	11·76
B.A.C. 5412.		
Aug. 1	T	176 4 15·30
2	T	15·80
15	T	15·17
16	T	15·47
17	T	15·25

Day.	Observer.	° ′ ″
B.A.C. 5412 (continued).		
Aug. 18	G	176 4 15·21
20	W	14·53
23	T	15·00
24	T	14·79
B.A.C. 5412. S.P.		
Aug. 15	T	−176 4 16·36
16	T	15·82
23	T	15·73
γ Apodis.		
June 7	W	168 33 46·43
28	W	46·39
Aug. 29	T	47·12
σ Scorpii.		
May 20	W	115 14 34·94
B.A.C. 5485.		
July 10	W	147 25 45·77
α Scorpii.		
Jan. 2	T	116 6 28·85
3	T	28·02
4	T	28·88
7	G	29·70
8	G	27·68
9	G	29·20
10	G	29·05
11	G	29·83
18	G	28·25
22	G	28·45
31	G	27·91
Feb. 1	G	27·90
13	T	28·96
27	T	29·16
28	T	29·59
29	T	28·88
α Scorpii (continued).		
Apr. 22	T	116 6 28·50
May 6	T	29·36
20	W	27·99
June 6	G	28·90
7	W	29·30
10	W	29·48
11	G	28·77
16	G	28·53
28	W	29·26
July 3	W	28·66
7	G	28·66
14	G	29·18
Aug. 2	T	29·25
5	G	29·08
11	G	28·91
12	G	29·71
20	W	28·17
Sept. 6	T	28·84
7	T	28·50
Oct. 4	T	28·95
9	T	28·26
β Apodis.		
Aug. 29	T	167 12 20·76
30	T	21·15
β Apodis. S.P.		
Aug. 29	T	−167 12 21·80
τ Scorpii.		
Jan. 31	G	117 54 45·26
Feb. 1	G	45·09
27	T	45·38
28	T	45·95
July 14	G	45·71
Sept. 6	T	45·53
7	T	45·71
Oct. 4	T	45·70
η^2 Trianguli Aust.		
July 5	W	157 49 38·68
10	W	38·45
B.A.C. 5579.		
June 16	G	107 27 32·97
α Trianguli Aust.		
June 7	W	158 45 19·68
10	W	20·28
July 1	W	19·22
2	G	18·75
41 Herculis.		
July 8	W	83 37 54·79
25 Scorpii.		
July 8	W	115 15 42·41
ζ Aræ.		
July 11	G	145 45 23·48
x Ophiuchi.		
June 28	W	80 23 51·84
Aug. 16	T	50·75
17	T	50·76
24	T	50·12
ϵ^2 Aræ.		
July 1	W	143 0 52·71
29 Ophiuchi.		
July 3	W	106 40 9·76
B.A.C. 5760.		
July 12	W	90 41 25·75

Day.	Observer.	° ′ ″
η Scorpii.		
July 7	G	133 2 38·51
B.A.C. 5789.		
July 8	W	116 51 27·80
B.A.C. 5794.		
Sept. 3	W	170 42 40·34
4	W	39·46
ι Apodis.		
July 5	W	159 57 48·23
Aug. 29	T	47·08
30	T	47·51
A Ophiuchi (as one mass).		
Mar. 27	T	116 23 10·42
May 21	G	9·97
June 16	G	10·46
Aug. 10	T	10·80
11	G	10·10
Sept. 7	T	10·85
8	G	9·80
α Herculis.		
June 28	W	75 26 31·24
θ Ophiuchi.		
Feb. 28	T	114 51 3·76
29	T	4·05
April 23	T	3·65
24	G	2·54
May 20	W	2·99
21	G	3·47
July 14	G	3·24
Aug. 8	T	4·08
10	T	3·36
11	G	3·67
14	W	4·52
θ Ophiuchi (*continued*).		
Sept. 7	T	114 51 3·77
8	G	4·50
Oct. 4	T	3·38
β Aræ.		
July 11	G	145 23 13·52
B.A.C. 5855.		
July 1	W	134 1 6·60
3	W	6·77
d Ophiuchi.		
Apr. 23	T	119 43 53·81
24	G	53·59
July 2	G	56·29
7	G	55·87
14	G	54·33
Oct. 4	T	54·06
B.A.C. 5888.		
July 12	W	102 22 50·96
π Aræ.		
July 3	W	144 23 50·39
11	G	50·39
B.A.C. 5934.		
July 5	W	162 8 25·06
β Draconis.		
June 28	W	37 35 15·49
α Ophiuchi.		
July 2	G	77 19 53·68
B.A.C. 5936.		
Aug. 30	T	177 38 41·78
Sept. 3	W	39·34
4	W	39·65
5	T	40·51
6	T	40·64
8	G	42·04
11	W	40·80
13	T	41·14
14	T	41·20
15	G	40·15
16	G	41·14
B.A.C. 5936. S.P.		
Sept. 11	W	− 177 38 38·96
13	T	44·68
15	G	41·16
16	G	40·85
18	W	40·60
ε Scorpii.		
June 30	G	128 56 59·73
3 Sagittarii.		
July 7	G	117 46 16·46
B.A.C. 6010.		
July 3	W	155 26 14·27
ι^2 Scorpii.		
July 2	G	130 2 17·52
σ Octantis.		
Mar. 28	T	179 16 34·32
June 28	W	34·88
Aug. 14	W	34·17
20	W	33·16
23	T	34·23
24	T	34·86

Day.	Observer.	° ′ ″
σ Octantis (continued).		
Aug. 29	T	179 16 35·00
30	T	35·32
Sept. 3	W	33·33
4	W	34·19
5	T	34·69
6	T	35·16
7	T	35·12
11	W	35·11
13	T	35·35
14	T	35·58
15	G	34·87
16	G	34·61
19	T	35·18
20	T	35·27
21	T	35·72
22	G	35·68
σ Octantis S.P.		
Jan. 4	T	− 179 16 34·51
7	G	36·07
8	G	35·30
9	G	35·40
10	G	35·33
14	G	36·36
15	G	36·11
19	G	36·60
25	G	34·41
26	G	34·99
28	G	36·74
29	G	34·58
30	G	36·31
31	G	35·89
Feb. 1	G	35·64
2	G	36·04
4	G	35·45
5	G	35·99
11	G	35·64
12	G	35·64
13	G	34·94
14	G	36·32
15	G	35·62
16	G	35·96

Day.	Observer.	° ′ ″
σ Octantis S.P. (continued).		
Feb. 19	G	− 179 16 35·30
22	G	35·23
28	G	36·20
Sept. 15	G	35·37
16	G	35·87
19	T	35·71
20	T	35·13
21	T	35·24
23	G	36·08
24	W	37·46
25	W	35·76
Dec. 19	T	35·70
24	T	34·91
B.A.C. 6049.		
July 8	W	100 51 34·72
4 Sagittarii.		
July 11	G	113 47 51·33
γ Draconis.		
June 28	W	38 29 23·18
τ Ophiuchi.		
July 10	W	98 10 32·66
γ¹ Sagittarii.		
Mar. 27	T	119 34 52·29
B.A.C. 6112.		
July 5	W	133 25 35·37
B.A.C. 6156 S.P.		
Feb. 7	G	− 170 17 15·23
8	G	13·94
9	G	14·94
11	G	14·58
12	G	16·24

Day.	Observer.	° ′ ″
μ¹ Sagittarii.		
Apr. 24	G	111 5 30·48
May 21	G	30·27
22	W	30·35
June 30	G	30·87
July 2	G	29·39
3	W	29·31
Aug. 11	G	28·79
15	T	30·28
20	W	29·08
23	T	30·53
29	T	30·70
30	T	30·43
Sept. 1	G	28·15
4	W	30·22
5	T	29·29
6	T	30·01
7	T	30·41
8	G	31·04
15	G	30·29
16	G	31·13
15 Sagittarii.		
July 10	W	110 45 59·11
16 Sagittarii.		
July 8	W	110 25 34·10
δ Sagittarii.		
Feb. 29	T	119 53 2·99
Mar. 1	T	3·31
27	T	4·00
28	T	3·56
May 21	G	2·57
22	W	1·37
Aug. 11	G	1·89
B.A.C. 6205. S.P.		
Feb. 13	G	− 171 54 13·87
14	G	11·91
18	G	13·07

Day.	Observer.	° ′ ″
B.A.C. 6205. S.P. *(cont.)*		
Feb. 25	G	− 171 54 10·33
26	G	11·29
ε Sagittarii.		
Mar. 29	T	124 26 51·00
June 28	W	51·37
Aug. 23	T	50·32
29	T	50·46
30	T	50·25
Sept. 3	W	51·11
4	W	50·44
5	T	50·77
6	T	50·17
7	T	50·54
11	W	50·60
13	T	50·91
14	T	50·72
19	T	50·83
λ Sagittarii.		
May 21	G	115 29 47·11
60 Serpentis.		
July 3	W	92 4 27·43
5	W	27·44
61 Serpentis.		
July 8	W	91 6 4·37
B.A.C. 6343.		
July 11	G	113 37 23·04
α Lyræ.		
Aug. 23	T	51 20 51·51
29	T	51·42
30	T	51·67
α Lyræ *(continued)*.		
Sept. 3	W	51 20 50·72
5	T	50·03
6	T	51·77
13	T	52·11
14	T	50·60
24	W	50·78
φ Sagittarii.		
Apr. 24	G	117 8 2·32
25	G	2·23
Sept. 8	G	1·83
4 Aquilæ.		
July 5	W	88 4 57·43
β Lyræ.		
Aug. 29	T	56 48 6·71
30	T	5·66
Sept. 5	T	5·36
6	T	5·66
11	W	5·04
13	T	5·93
14	T	6·23
15	G	8·13
16	G	5·34
24	W	5·36
σ Sagittarii.		
Mar. 28	T	116 28 14·99
29	T	13·60
April 24	G	15·09
25	G	15·18
Sept. 8	G	14·72
λ Telescopii.		
July 7	G	143 7 16·91
62 Serpentis.		
July 5	W	83 33 40·51
ζ Sagittarii.		
Mar. 1	T	120 4 50·77
28	T	52·09
29	T	51·61
May 22	W	52·21
23	G	51·13
τ Sagittarii.		
May 22	W	117 52 35·25
23	G	33·34
ζ Aquilæ.		
Aug. 30	T	76 20 49·80
Sept. 5	T	49·44
6	T	50·13
11	W	49·91
13	T	50·15
14	T	50·01
15	G	51·26
22	G	48·43
23	G	49·86
ω Aquilæ.		
Aug. 29	T	78 39 39·10
30	T	39·15
Sept. 3	W	38·99
5	T	39·30
6	T	39·20
11	W	38·79
13	T	39·95
14	T	39·09
24	W	38·98
δ Aquilæ.		
Sept. 11	W	87 10 7·09
24	W	8·56
λ^2 Sagittarii.		
April 25	G	115 11 48·55
26	T	49·17
Sept. 10	W	49·28

Day.	Observer.	° ′ ″
B.A.C. 6708. S.P.		
Feb. 7	G	— 171 41 50·60
9	G	53·03
11	G	51·00
12	G	51·02
13	G	52·21
α Aquilæ.		
Feb. 10	G	81 30 30·53
12	G	31·11
13	G	30·88
14	G	29·37
17	G	30·73
18	G	31·77
19	G	29·39
22	T	30·39
25	T	30·22
26	G	30·83
27	G	29·96
28	G	29·70
Mar. 4	G	31·18
9	G	30·02
11	T	30 62
April 25	G	30·55
Sept. 8	G	30·60
13	T	31·38
16	G	30·91
21	T	30·66
22	G	30·21
23	G	31·49
24	W	30 21
Oct. 6	G	31·14
9	T	29·86
ε Pavonis S.P.		
Feb. 7	G	— 163 16 55·95
9	G	60·03
11	G	58·06
12	G	57·57
13	G	56·37

Day.	Observer.	° ′ ″
***b* Sagittarii.**		
Sept. 10	W	117 32 50·03
Oct. 8	T	50·28
β Aquilæ.		
Oct. 9	T	83 56 58·18
*** 8th Mag. R.A. 19h 52m 25s. S.P.**		
Mar. 8	G	— 169 59 37·09
B.A.C. 6859. S.P.		
Feb. 14	G	— 173 44 24·16
15	G	24·29
25	G	23·83
26	G	24·11
27	G	24·53
σ Sagittarii.		
Mar. 29	T	118 6 21·52
30	T	21·07
Apr. 25	G	21·55
26	T	21·24
Oct. 8	T	21·60
B.A.C. 6900. S.P.		
Mar. 8	G	— 170 1 47·08
10	G	50·06
12	G	48·18
24	G	47·63
26	G	45·86
α^2 Capricorni.		
May 23	G	102 59 15·50
July 11	G	15·12
18	G	13·87
Sept. 10	W	15·24
11	W	14·42
Oct. 1	W	14·54
3	W	14·50

Day.	Observer.	° ′ ″
α^2 Capricorni *(continued)*.		
Oct. 6	G	102 59 15·67
11	W	14·74
14	G	15·64
ρ Capricorni.		
Sept. 25	W	108 17 9·09
μ^1 Octantis S.P.		
Apr. 11	G	— 166 40 39·84
17	G	36·53
29	G	38·70
May 5	G	34·20
6	G	38·30
B Octantis.		
Oct. 1	W	179 29 41·70
3	W	40·90
4	T	40·72
6	G	41·27
9	T	41·17
10	W	40·64
11	W	41·16
14	G	40·66
υ Capricorni.		
May 23	G	108 38 30·43
σ Pavonis. S.P.		
Feb. 27	G	— 159 17 45·16
Mar. 8	G	46·98
10	G	45·47
12	G	47·22
13	G	47·86
α Cygni.		
Sept. 25	W	45 13 52·47

Day.	Observer.	° ′ ″
ψ Capricorni.		
Apr. 26	T	115 47 6·15
27	T	5·24
May 23	G	5·51
July 18	G	4·50
Sept. 10	W	5·54
11	W	5·31
ω Capricorni.		
Apr. 26	T	117 27 15·98
July 18	G	15·13
Sept. 10	W	15·32
11	W	14·88
32 Vulpeculæ.		
Oct. 3	W	62 29 15·01
o Pavonis S.P.		
Feb. 27	G	−160 42 28·68
28	G	30·13
29	G	28·72
Mar. 4	G	29·40
7	G	26·20
ζ Cygni.		
Oct. 1	W	60 21 44·18
B.A.C. 7384. S.P.		
Feb. 27	G	−178 18 10·17
28	G	6·57
Mar. 1	G	6·69
4	G	10·95
7	G	9·18
ε Capricorni.		
Aug. 14	W	107 26 40·60
15	T	42·46
Oct. 9	T	41·53

Day.	Observer.	° ′ ″
ζ Capricorni.		
Oct. 9	T	113 1 55·91
β Aquarii.		
Mar. 27	T	96 12 7·62
30	T	7·51
Apr. 2	T	7·67
8	T	7·28
16	T	7·80
Oct. 3	W	7·20
Dec. 3	T	9·46
λ Octantis. S.P.		
May 1	G	−173 22 27·84
2	G	26·89
5	G	26·53
6	G	26·43
γ Capricorni.		
Apr. 27	T	107 18 36·99
July 18	G	37·16
Sept. 11	W	36·94
Nov. 5	W	35·84
6	W	35·69
ε Pegasi.		
Mar. 23	T	80 46 57·78
May 23	T	58·67
Oct. 2	W	58·41
10	W	57·50
δ Capricorni.		
April 27	T	106 46 41·40
July 18	G	42·17
Aug. 16	T	41·23
Sept. 11	W	41·97
Nov. 5	W	41·20
6	W	41·76

Day.	Observer.	° ′ ″
μ Capricorni.		
Oct. 9	T	104 13 38·37
10	W	37·66
16 Pegasi.		
Oct. 2	W	64 45 4·76
α Aquarii.		
Apr. 1	T	91 1 3·53
2	T	3·64
Oct. 2	W	1·82
ι Aquarii.		
Aug. 15	T	104 33 58·38
16	T	57·87
Oct. 9	T	58·05
10	W	57·59
C Octantis.		
May 20	T	176 41 31·93
21	T	34·84
22	T	33·99
23	T	34·93
30	T	35·04
June 1	T	35·95
2	T	34·78
C Octantis. S.P.		
Mar. 20	T	−176 41 34·23
27	G	35·70
28	G	34·71
April 3	G	35·32
8	G	33·01
17	G	33·65
May 20	T	35·72
21	T	34·52
22	T	34·26
23	T	34·81
30	T	35·27
31	T	35·63
June 1	T	34·91
2	T	34·38
3	T	35·69

Day.	Observer.	° ′ ″
ε Octantis S.P.		
Apr. 24	G	— 171 9 7·95
25	G	9·64
26	G	8·89
28	G	8·64
29	G	8·19
θ Aquarii.		
Oct. 10	W	98 29 53·93
σ Aquarii.		
Sept. 13	T	101 24 47·01
β Octantis.		
May 23	T	172 8 0·39
β Octantis. S.P.		
Mar. 27	G	— 172 7 61·71
28	G	62·44
Apr. 1	G	61·76
7	G	61·91
17	G	59·83
ζ Pegasi.		
Oct. 11	W	79 55 8·00
τ^2 Aquarii.		
Nov. 6	W	104 21 3·84
λ Aquarii.		
Aug. 16	T	98 20 39·73
17	T	39·68
Oct. 10	W	39·64
11	W	39·65
δ Aquarii.		
Sept. 13	T	106 35 7·16
Nov. 6	W	6·67

Day.	Observer.	° ′ ″
α Piscis Australis.		
Mar. 3	G	120 23 0·88
6	G	2·42
9	G	2·87
10	G	2·31
12	G	3·54
14	G	2·31
24	G	2·53
25	T	2·63
26	T	2·96
27	T	2·43
28	T	2·62
30	G	3·80
Apr. 2	T	2·30
7	G	2·67
13	T	2·65
15	T	2·11
16	T	2·98
17	T	2·94
24	T	3·10
29	T	2·36
α Pegasi.		
Nov. 6	W	75 34 6·32
τ Octantis.		
May 30	T	178 16 13·88
31	T	13·77
June 1	T	14·09
2	T	13·33
3	T	13·97
4	T	13·06
5	T	13·33
7	T	10·69
8	T	11·01
10	T	13·66
11	T	12·74
15	W	17·56

Day.	Observer.	° ′ ″
τ Octantis. S.P.		
Jan. 10	W	— 178 16 13·77
18	W	13·10
Mar. 27	G	13·32
28	G	13·25
April 1	G	13·64
2	G	12·51
3	G	12·91
7	G	13·24
8	G	14·46
16	T	13·19
29	G	16·68
May 2	G	12·99
9	T	14·77
10	W	15·46
20	W	14·57
22	W	13·79
23	G	13·69
28	G	14·01
30	G	13·59
31	T	14·51
June 1	T	13·47
2	T	13·65
3	T	14·27
4	T	13·64
5	T	13·58
6	T	13·33
7	T	13·83
8	T	13·52
9	T	13·52
10	T	13·42
11	T	13·76
14	W	13·99
15	W	12·95
16	T	13·63
17	T	13·45
21	T	13·52
23	T	14·04
ψ^3 Aquarii.		
Oct. 10	W	99 58 3·68
11	W	3·04

Day.	Observer.	° ′ ″
ψ^2 Aquarii.		
Aug. 16	T	100 23 49·16
17	T	49·78
ι Piscium.		
May 30	T	85 9 13·74
June 11	T	13·88
Oct. 11	W	13·33
Nov. 5	W	12·36
λ Piscium.		
Sept. 13	T	89 0 40·74
14	T	42·98
20 Piscium.		
Sept. 13	T	93 33 42·35
14	T	40·97
δ Sculptoris.		
May 30	T	118 55 34·66
June 4	T	34·34
11	T	34·81
γ^1 Octantis. S.P.		
May 5	G	− 172 49 8·14
12	G	7·69
27	W	6·94
28	G	11·82
30	G	9·22
June 23	T	7·99
γ^2 Octantis.		
June 16	T	172 58 14·29
γ^3 Octantis. S.P.		
May 27	W	− 172 58 13·16
June 2	G	14·99
γ^3 Octantis. S.P. *(continued)*.		
June 6	G	− 172 58 12·12
9	G	14·22
21	T	14·52
ω Piscium.		
June 11	T	83 56 1·76
30 Piscium.		
Aug. 17	T	96 48 50·57
Oct. 11	W	50·52
12	T	51·96
33 Piscium.		
Aug. 18	G	96 30 46·91
Oct. 11	W	45·87
12	T	46·39

ROYAL OBSERVATORY,
CAPE OF GOOD HOPE.

CATALOGUE

OF

CONCLUDED MEAN RIGHT ASCENSIONS

AND

MEAN NORTH POLAR DISTANCES,

FOR 1856, JANUARY 1,

OF

STARS OBSERVED IN THE YEAR 1856;

AND

STAR CONSTANTS WHICH HAVE BEEN COMPUTED FOR THE REDUCTIONS OF THE YEAR.

No.	Star's Name.	Magnitude.	Mean R.A. 1856, Jan. 1.	Fraction of Year for Mean.	No. of Obs. of R.A.	Precess. in R.A.	Mean N.P.D. 1856, Jan. 1.	Fraction of Year for Mean.	No. of Obs. of N.P.D.	Precess. in N.P.D.
			h m s			s.	° ′ ″			″
1	α Andromedæ	2	0 0 57·02	0·75	1	+ 3·076	61 42 17·05	0·58	8	— 20·06
2	γ^3 Octantis S.P.	5	0 3 24·91	·44	7	+ 2·909	178 1 29·52	·44	7	20·05
3	γ Pegasi.....	3·2	0 5 49·49	·76	2	+ 3·081	75 37 1·04	·55	4	20·05
4	o Octantis..... o Octantis S.P.	6·7	0 13 33·02	·48	10 12	— 2·340	179 9 48·88 49·74	·50 ·47	10 13	20·02
5	β Hydri..... β Hydri S.P....	3	0 18 6·99	·40	16 21	+ 2·572	168 3 55·69 56·29	·38 ·40	21 21	19·99
6	12 Ceti.....	6	0 22 41·44	·71	5	3·061	94 45 11·58	·71	5	19·96
7	13 Ceti.....	6·5	0 27 50·25	·55	1	3·060	94 23 10·34	·55	1	19·91
8	β Ceti..... ..	2	0 36 21·52	·67	11	3·000	108 46 39·01	·50	31	19·80
9	δ Piscium.....	4·5	0 41 12·97	·70	1	3·101	83 11 55·98	·70	1	19·73
10	ε Piscium.....	4	0 55 28·36	·59	2	3·112	82 53 9·66	·68	3	19·47
11	ε Piscium.....	6·5	1 0 57·31	·59	2	3·102	85 6 47·30	·68	3	19·35
12	θ^1 Ceti.....	3	1 16 49·43	·76	1	3·003	98 55 39·49	·54	3	18·93
13	μ Piscium.....	5	1 22 38·62	·71	2	3·117	84 35 58·74	·71	2	18·77
14	η Piscium.....	4·3	1 23 47	...	...	3·197	75 23 50·93	·48	1	18·72
15	π Piscium.....	6	1 29 28·21	·71	2	3·175	78 35 47·15	·71	2	18·54
16	α Eridani.....	1	1 32 20·68	·35	1	2·234	147 58 10·06	·35	11	18·45
17	o Piscium.....	4	1 37 47·72	·78	1	+ 3·154	81 34 6·80	·86	2	18·25
18	B.A.C. 554 S.P.	6	1 41 20·41	·45	4	— 0·132	169 52 26·66	·45	4	18·13
19	B.A.C. 557 S.P.	6	1 41 59·89	·42	1	— 2·148	173 42 25·63	·42	1	18·10
20	ζ Ceti.....	3	1 44 21	...	...	+ 2·957	101 2 51·93	·49	1	18·01
21	*..... *..... S.P.	6	1 46 13·58	·54	3 5	— 4·515	175 29 41·45 42·32	·55 ·53	3 5	17·94
22	β Arietis.....	3·2	1 46 41·54	·64	2	+ 3·292	69 53 51·42	·58	4	17·91
23	α Arietis.....	2	1 59 3·80	·62	2	3·352	67 13 13·35	·61	10	17·41
24	ξ^1 Ceti.....	4·5	2 5 22·30	·78	1	3·172	81 49 51·50	·78	1	17·13
25	θ Arietis.....	6·5	2 10 7·42	·86	2	3·324	70 46 2·14	·86	2	16·91
26	ξ Arietis.....	5·6	2 17 6·30	·71	1	3·205	80 2 36·86	·71	1	16·57
27	γ Ceti.....	3·4	2 35 50·49	·78	1	3·111	87 22 23·70	·79	2	15·59
28	μ Ceti.....	4	2 37 9·80	·71	1	3·214	80 29 47·10	·71	1	15·52
29	ε Arietis.....	4·5	2 50 59·10	·79	2	3·417	69 14 17·47	·83	3	14·72
30	α Ceti.....	2·3	2 54 45·10	·36	1	3·129	86 28 39·70	·40	5	14·50
31	δ Arietis.....	4·5	3 3 24·15	·78	1	3·406	70 49 14·56	·64	4	13·97
32	17 Tauri.....	4	3 36 19·94	·79	3	3·547	66 20 34·08	·86	3	11·76
33	η Tauri.....	3	3 38 55·88	·84	3	+ 3·551	66 20 37·20	·68	4	11·57
34	γ Hydri..... γ Hydri S.P....	3	3 49 31·23	·58	5 9	— 1·039	164 40 44·86 45·47	·60 ·57	5 9	10·81
35	A^1 Tauri.....	5·4	3 56 11·48	0·64	1	+ 3·529	68 18 54·85	0·64	1	— 10·31

No.	Star's Name.	Magnitude.	Mean R.A. 1856, Jan. 1.	Fraction of Year for Mean.	No. of Obs. of R.A.	Precess. in R.A.	Mean N.P.D. 1856, Jan. 1.	Fraction of Year for Mean.	No. of Obs. of N.P.D.	Precess. in N.P.D.
			h m s			s.	° ′ ″			″
36	o^1 Eridani.....	4·5	4 4 50	...	...	+ 2·924	97 12 58·08	0·62	1	− 9·65
37	δ^2 Tauri.....	6	4 15 47·82	0·71	1	3·442	72 53 36·57	·71	1	8·80
38	π^1 Tauri.....	5·4	4 16 47·57	·87	1	3·558	68 2 22·08	·87	1	8·72
39	ϵ Tauri.....	4·3	4 20 12·78	·75	2	3·487	71 8 33·35	·52	5	8·45
40	α Tauri.....	1	4 27 39·65	·63	8	+ 3·430	73 47 2·65	·54	29	7·86
41	δ Mensæ.....	6	4 27 50·90	0·63	3	− 4·318	170 32 46·64	·63	4	7·85
	δ Mensæ S.P....				8		47·28	·63	8	
42	ι Tauri.....	5	4 54 29·50	1·00	2	+ 3·575	68 37 11·39	·34	3	5·65
43	l Tauri.	6·5	4 59 17·28	0·05	1	+ 3·548	69 46 30·31	·05	1	5·24
44	B.A.C. 1587....	5·6	4 59 21·88	·67	1	− 1·797	165 9 21·11	·67	1	5·24
	B.A.C.1587S.P.				4		22·32	·67	4	
45	ϵ Leporis	4·3	4 59 21·91	·67	2	+ 2·536	112 34 2·76	·65	3	5·24
46	β Orionis.....	1	5 7 37·10	·53	12	2·880	98 22 16·62	·30	48	4·54
47	β Tauri.....	2	5 17 11·48	·67	7	3·785	61 31 7·20	·58	10	3·71
48	δ Orionis.....	2	5 24 39·04	·64	10	3·063	90 24 33·69	·36	20	3·07
49	α Leporis.....	3	5 26 23	...	...	2·644	107 55 43·27	·49	1	2·93
50	ϵ Orionis.....	2	5 28 54·39	·62	3	3·042	91 17 51·15	·56	5	2·70
51	ζ Tauri	3·4	5 29 2·50	·87	1	3·582	68 56 57·62	·87	1	2·69
52	α Columbæ	2	5 34 26·08	·53	13	2·171	124 9 11·71	·46	21	2·23
53	136 Tauri.....	5	5 44 16·71	·05	1	3·769	62 25 33·73	·05	1	1·36
54	α Orionis.....	Var.	5 47 22·56	·51	17	3·245	82 37 25·17	·29	62	− 1·10
55	η Geminorum.	3·4	6 6 10·99	·12	1	3·627	67 27 20·09	·12	1	+ 0·55
56	κ Aurigæ	5·4	6 6 12	...	...	3·830	60 27 12·71	·05	2	0·55
57	μ Geminorum.	3	6 14 14·92	·43	2	+ 3·627	67 25 0·03	·57	3	1·26
58	B.A.C. 2085....	6·7	6 17 39·92	·21	5	− 15·610	175 55 6·20	·11	5	1·54
	B.A.C.2085S.P.				1		7·19	·72	1	
59	α Argûs	1	6 20 45·21	·38	1	+ 1·329	142 37 6·62	·37	4	1·81
60	π^2 Doradûs....	5·6	6 26 41·99	·13	5	− 0·500	159 36 25·70	·13	5	2·33
61	ϵ Geminorum.	3·4	6 35 4·13	·43	2	+ 3·696	64 43 50·29	·32	6	3·07
62	α Canis Majoris	1	6 38 48·07	·38	26	+ 2·681	106 31 17·23	·33	28	3·39
63	ζ Mensæ.....	5·6	6 51 57·28	·11	5	− 4·846	170 39 20·13	·11	5	4·51
64	ϵ Canis Majoris	2·1	6 52 57·95	·50	6	+ 2·357	118 46 43·17	·32	31	4·60
65	ζ Geminorum.	4	6 55 34	...	...	3·564	69 13 21·78	·12	3	4·83
66	δ Geminorum.	3·4	7 11 31·23	·17	2	3·592	67 45 23·84	·17	4	6·17
67	ϵ Geminorum..	4	7 16 46·78	.17	2	+ 3·745	61 55 11·10	·32	5	6·61
68	δ Volantis.....	5	7 16 53·38	·14	5	− 0·005	157 41 36·05	·14	5	6·60
69	α^2 Geminorum	2·1	7 25 24	...	...	+ 3·856	57 48 0·03	·50	2	7·31
70	α Canis Minoris	1	7 31 45·65	0·56	3	+ 3·192	84 24 34·15	0·44	11	+ 7·82

No.	Star's Name.	Magnitude.	Mean R.A. 1856, Jan. 1.	Fraction of Year for Mean.	No. of Obs. of R.A.	Precess. in R.A.	Mean N.P.D. 1865, Jan. 1.	Fraction of Year for Mean.	No. of Obs. of N.P.D.	Precess. in N.P.D.
			h m s			s.	° ′ ″			″
71	β Geminorum.	1·2	7 36 30	...	...	+ 3·730	61 37 47·04	0·62	3	+ 8·21
72	φ Geminorum.	5	7 44 40·82	0·20	1	3·686	62 51 56·36	·20	2	8·86
73	Lalande 15898	...	8 1 0·40	·95	1	3·635	64 1 22·11	·95	1	10·10
74	15 Argûs.....	3	8 1 24·72	·13	1	2·561	113 53 80·18	·20	26	10·14
75	ψ^2 Cancri.....	6	8 1 46·43	·20	1	+ 3·632	64 3 33·98	·32	5	10·17
76	A Octantis..... A Octantis.S.P.	7	8 22 45	...	...	− 36·896	178 26 36·60 37·69	·23 ·77	10 7	11·70
77	θ Cancri	6	8 23 22·86	·73	3	+ 3·436	71 25 19·15	·73	3	11·75
78	θ Chamæleontis	5	8 24 52·72	·16	5	− 1·607	167 1 4·59	·16	5	11·85
79	γ Cancri	4·5	8 34 56·83	·13	1	+ 3·492	68 0 59·65	·31	5	12·56
80	δ Cancri	4	8 36 30·00	·21	1	3·422	71 19 9·32	·20	2	12·66
81	ε Hydræ.....	3·4	8 39 9	...	...	3·197	83 3 20·47	·95	1	12·84
82	ξ Cancri.....	5	9 1 4·40	·47	5	3·464	67 22 29·63	·45	6	14·25
83	*.....	10	9 10 39·91	·03	4	3·229	80 5 55·12	·03	4	14·83
84	83 Cancri	6	9 10 56	...	...	3·369	71 41 12·36	·54	3	14·85
85	β Argûs.....	1	9 11 36·05	·20	3	+ 0·721	159 7 27·48	·20	3	14·88
86	ζ Octantis..... ζ Octantis.S.P.	5·6	9 16 45·02	·33	7 3	− 7·080	175 4 47·29 49·95	·31 ·38	7 3	15·18
87	α Hydræ	2	9 20 30·59	·28	3	+ 2·951	98 2 11·44	·22	25	15·39
88	λ Leonis.....	5·4	9 23 29·84	·51	7	+ 3·440	66 23 57·57	·49	8	15·56
89	ι Chamæleontis	6	9 28 47·11	·26	5	− 1·635	170 9 47·33	·26	5	15·85
90	*.....	11	9 31 49·85	·03	5	+ 3·168	83 9 42·50	·03	5	16·01
91	ε Leonis.....	3	9 37 40	...	...	+ 3·425	65 33 52·93	·40	4	16·31
92	ζ Chamæleontis	5·6	9 37 57·90	·27	4	− 1·468	170 17 34·42	·26	5	16·33
93	W.B. IX. 888.	8	9 40 38·88	·02	4	+ 3·147	84 22 33·52	·02	4	16·46
94	*.....	11	9 48 7·72	·03	4	3·129	85 29 21·09	·03	4	16·83
95	π Leonis.....	5	9 52 36·10	·33	1	3·180	81 15 59·12	·33	1	17·05
96	*.....	9·10	9 55 16·46	·02	4	3·111	86 47 35·83	·02	4	17·16
97	η Leonis.....	3·4	9 59 28·67	·21	2	3·283	72 32 12·17	·29	4	17·36
98	α Leonis.....	1·2	10 0 41·93	·44	3	+ 3·221	77 19 50·23	·38	13	17·41
99	μ^1 Chamæleontis	5·6	10 4 24·05	·33	5	− 1·260	171 30 59·75	·33	5	17·56
100	μ^2 Chamæleontis	6·7	10 6 44·40	·37	2	− 0·871	170 51 48·28	·37	2	17·66
101	ω Argûs.....	4	10 10 18·80	·33	5	+ 1·440	159 19 24·39	·33	5	17·80
102	γ^1 Leonis.....	2	10 12 1·59	·33	1	3·299	69 25 53·99	·41	5	17·88
103	24 Sextantis...	6·7	10 16 6·07	·03	5	3·070	90 10 26·87	·03	5	18·03
104	44 Leonis.....	6	10 17 39·68	·21	2	3·168	80 29 4·25	·21	2	18·10
105	ρ Leonis.....	4	10 25 13·62	0·30	3	+ 3·167	79 57 13·01	0·29	6	+ 18·37

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			h m s			s.	° ′ ″			″
106	*.....	11	10 32 29·96	0·03	5	+ 3·048	92 46 22·82	0·03	5	+ 18·61
107	η Argûs.....	Var.	10 39 28·80	·21	1	2·308	148 55 41·58	·28	2	18·83
108	*.....	10	10 39 31·07	·02	4	3·040	93 57 24·36	·02	4	18·83
109	δ^1 Chamæleontis	5·6	10 43 51·27	·32	5	0·670	169 42 33·78	·32	5	18·96
110	δ^2 Chamæleontis	5	10 44 22·89	·37	5	0·669	169 46 50·94	·37	5	18·97
111	*c* Leonis.....	5	10 53 16·89	·36	1	3·118	83 7 32·57	·36	1	19·22
112	*.....	10	10 55 47·51	·03	4	3·030	96 26 50·91	·03	4	19·27
113	χ Leonis	5	10 57 35·18	·26	4	+ 3·123	81 53 10·32	·25	6	19·32
114	η Octantis.....	6	11 0 11·17	·35	5	− 0·114	173 49 8·63	·35	5	19·38
115	*.....	10	11 3 48·57	·03	4	+ 3·029	97 27 44·85	·03	4	19·46
116	δ Leonis.....	2·3	11 6 27	...	...	3·192	68 41 15·93	·88	1	19·52
117	π Leonis.....	6	11 8 19·68	·21	2	3·147	75 54 26·28	·21	2	19·55
118	δ Crateris.....	3·4	11 12 8·55	·37	3	3·008	103 59 58·51	·27	20	19·62
119	σ Leonis.....	4	11 13 42·54	·18	2	3·104	88 10 55·27	·18	2	19·65
120	ι Leonis.....	4	11 16 24·83	·29	3	3·122	76 40 40·44	·33	4	19·70
121	*.....	9·10	11 19 1·67	·02	4	3·030	99 57 20·65	·02	4	19·74
122	τ Leonis.....	5	11 20 31·86	·36	2	3·086	86 21 3·73	·36	2	19·76
123	W.B. XI. 475.	7	11 27 37·99	·02	4	3·034	101 17 34·14	·02	4	19·86
124	υ Leonis.....	5·4	11 29 34·61	·38	1	3·072	90 1 43·88	·43	4	19·88
125	*.....	10·11	11 36 43·87	·03	5	3·042	102 19 59·04	·03	5	19·95
126	ν Virginis.....	4·5	11 38 27·43	·20	4	3·088	82 39 49·33	·17	5	19·97
127	β Leonis	2	11 41 43	...	...	3·101	74 37 22·43	·14	4	19·99
128	β Virginis.....	3·4	11 43 11·66	·31	4	3·076	87 25 25·62	·26	10	20·00
129	γ Ursæ Majoris	2·3	11 46 8	...	...	3·182	35 29 53·29	·48	1	20·02
130	δ Virginis.....	6	11 52 34·21	·21	1	3·075	85 32 33·50	·21	1	20·05
131	π Virginis.....	4·5	11 53 29·63	·44	1	3·077	82 34 56·61	·44	2	20·05
132	10 Virginis....	6	12 2 18·64	·25	2	3·071	87 17 35·34	·25	2	20·05
133	ε Corvi.....	3	12 2 43·54	·38	2	3·079	111 49 7·00	·40	3	20·05
134	β Chamæleontis	5	12 9 59·62	·39	12	3·359	168 30 44·24	·40	10	20·04
135	η Virginis.....	3·4	12 12 32·41	·22	2	3·072	89 51 57·45	·19	7	20·03
136	Lalande 23305	7·8	12 20 28·03	·09	5	3·110	107 48 44·02	·09	5	19·98
137	β Corvi.....	2·3	12 26 49·83	·32	8	3·138	112 35 58·99	·31	31	19·92
138	B.A.C. 4237....	7	12 27 1	...	...	3·074	90 36 47·80	·32	7	19·92
139	*.....	10	12 28 24·60	·12	4	3·128	108 46 6·15	·12	4	19·90
140	* Octantis	6	12 28 58·00	0·49	14	+ 12·805	179 0 28·56	·48	16	+ 19·90
	* Octantis. S.P.				11		28·86	0·50	11	

No.	Star's Name.	Magnitude.	Mean R.A. 1856, Jan. 1.	Fraction of Year for Mean.	No. of Obs. of R.A.	Precess. in R.A.	Mean N.P.D. 1856, Jan. 1.	Fraction of Year for Mean.	No. of Obs. of N.P.D.	Precess. in N.P.D.
			h m s			s	° ′ ″			″
141	γ Virginis (as one mass)	3·2	12 34 21·88	0·26	2	+ 3·074	90 39 31·95	0·30	8	+ 19·83
142	γ^1 Virginis.....	3·2	12 34 22·05	·07	1	3·074	90 39 29·52	·23	3	19·83
143	γ^2 Virginis.....	3·2	... ...	...	...	...	90 39 33·95	·31	2	19·83
144	*.....	11·12	12 35 2·45	·11	5	3·145	109 44 28·65	·11	5	19·82
145	B.A.C. 4277....	6	12 36 14	...	...	3·075	90 47 2·34	·29	3	19·81
146	ι Octantis.....	5	12 40 18·70	·41	5	5·433	174 20 22·41	·41	5	19·75
147	*.....	12	12 44 32·42	·12	4	3·169	110 38 53·13	·14	4	19·68
148	38 Virginis	6	12 45 48·98	·07	2	3·085	92 46 10·55	·23	8	19·65
149	ψ Virginis.....	5	12 46 52·18	·37	1	3·114	98 45 20·53	·37	1	19·63
150	δ Virginis.....	3	12 48 21·00	·44	1	3·052	85 49 8·83	·44	1	19·61
151	12 Can. Venat.	3	12 49 17·00	·43	2	2·840	50 54 9·90	·44	3	19·59
152	*k* Virginis.....	6	12 52 14	...	...	3·088	93 2 2·58	·26	5	19·53
153	*.....	10 11	12 52 49·88	·12	5	3·193	111 34 22·67	·12	5	19·53
154	46 Virginis.....	6	12 53 11	...	...	3·086	92 35 35·42	·25	2	19·51
155	48 Virginis	6	12 56 29	...	...	3·081	92 53 13·90	·23	3	19·45
156	ψ Hydræ.....	4·5	13 1 18·35	·11	4	3·217	112 20 48·06	·11	4	19·34
157	θ Virginis.....	4·5	13 2 29·82	·41	6	3·102	94 46 8·02	·30	19	19·31
158	*.....	10	13 9 41·71	·11	5	3·243	113 7 11·48	·11	5	19·14
159	B.A.C. 4460 ...	7	13 13 38·59	·47	6	7·973	175 4 32·63	·46	6	19·03
	B.A.C.4460. S.P.				2		32·28	·49	2	
160	B.A.C. 4473....	7	13 15 2·53	·12	2	3·113	95 26 28·06	·12	2	18·99
161	65 Virginis.....	6	13 15 51	...	...	3·104	94 10 10·35	·21	2	18·96
162	66 Virginis.....	6	13 17 4	...	...	3·106	94 24 35·34	·18	6	18·93
163	α Virginis.....	1	13 17 36·72	·58	8	3·154	100 24 29·11	·35	43	18·91
164	κ Octantis.....	6	13 18 27·96	·50	17	8·248	175 2 36·93	·50	17	18·89
	κ Octantis. S.P.				10		36·83	·51	10	
165	l^1 Virginis.....	7	13 22 55	...	...	3·120	95 43 31·00	·17	11.	18·75
166	l^2 Virginis.....	5	13 24 29	...	...	3·119	95 30 37·95	·17	5	18·70
167	ζ Virginis.....	3·4	13 27 21·34	·37	1	3·071	89 51 28·08	·14	6	18·61
168	81 Vir. (1st star)	7	13 30 2·67	·12	1	3·136	97 8 7·93	·12	2	18·52
169	81 Virginis (as one mass)	7	... ...	...	...	...	97 8 7·59	·16	8	18·52
170	*m* Virginis.....	6	13 34 3·53	·37	1	3·147	97 58 28·24	·37	1	18·38
171	86 Virginis	6	13 38 16·08	·15	1	3·188	101 42 10·79	·15	1	18·23
172	*.....	10·11	13 40 57·21	·12	5	3·349	115 56 11·90	·12	5	18·14
173	η Ursæ Majoris	2	13 41 51·53	·43	1	2·386	39 57 55·88	·44	2	18·10
174	89 Virginis	5	13 42 3·25	0·52	1	3·253	107 24 54·11	·52	2	18·09
175	η Boötis.....	3	13 47 50	...	...	+ 2·862	70 52 42·66	0·55	1	+ 17·87

No.	Star's Name.	Magnitude.	Mean R.A. 1856, Jan. 1.	Fraction of Year for Mean.	No. of Obs. of R.A.	Precess. in R.A.	Mean N.P.D. 1856, Jan. 1.	Fraction of Year for Mean.	No. of Obs. of N.P.D.	Precess. in N.P.D.
			h m s			s.	° ′ ″			″
176	θ Apodis.....	5	13 51 26·47	0·46	4	+ 5·596	166 5 52·91	0·46	4	+ 17·73
177	β Centauri.....	1	13 53 42	...	...	4·160	149 40 31·38	·40	6	17·64
178	B.A.C. 4700....	5·6	14 2 59·03	·52	2	3·263	105 37 9·72	·52	2	17·24
179	δ Octantis.....	5	14 4 21·41	·44	5	8·696	173 0 5·64	·44	5	17·18
180	ϵ Apodis.....	5	14 5 12·97	·43	4	6·798	169 26 20·33	·43	4	17·14
181	κ Virginis.....	4·5	14 5 13	...	...	3·190	99 36 4·11	·32	4	17·13
182	α Boötis.....	1	14 9 5·66	·77	7	2·813	70 3 56·76	·73	10	16·95
183	λ Virginis.....	5·4	14 11 20	...	...	3·236	102 42 21·70	·24	6	16·85
184	$\varkappa$ Octantis.....	6·5	14 22 18·48	·52	23	21·230	177 32 49·08	·51	23	16·31
	$\varkappa$ Octantis. S.P.				7		50·05	·57	6	
185	α^3 Centauri....	1	14 29 51	...	...	4·494	150 14 18·07	·64	55	15·92
186	δ Libræ.....	6	14 38 1·77	·34	4	3·298	104 50 58·53	·34	4	15·47
187	ϵ Boötis.....	2·3	14 38 42	...	...	2·624	62 18 58·49	·55	1	15·44
188	B.A.C. 4883. ..	6	14 40 11·68	·57	4	9·565	172 27 6·49	·57	5	15·35
	B.A.C. 4883 S.P.				2		8·49	·59	3	
189	α Libræ.....	2·3	14 42 55·16	·43	8	3·314	105 26 25·62	·39	31	15·20
190	20 Libræ	3·4	14 55 39·11	·08	1	3·500	114 42 47·06	·23	3	14·44
191	ψ Boötis.....	4·5	14 58 16·50	·49	2	2·583	62 29 17·92	·49	2	14·29
192	ν^1 Libræ.....	6	14 58 35·85	·45	1	3·337	105 41 42·66	·45	1	14·26
193	μ Lupi.....	5	15 8 32	...	...	4·135	137 20 27·84	·52	1	13·64
194	B.A.C. 5029....	7	15 8 34	...	...	4·136	137 20 42·90	·52	1	13·64
195	β Libræ.....	2	15 9 15·73	·53	4	3·225	98 50 54·73	·51	15	13·59
196	ρ Octantis.....	6	15 10 47·23	·59	9	12·436	173 58 17·79	·58	9	13·50
	ρ Octantis. S.P.				5		18·54	·59	5	
197	ζ^1 Libræ.....	4	15 20 9	...	...	3·371	106 12 38·28	·15	1	12·88
198	ζ^2 Libræ.....	6	15 22 33	...	...	3·371	106 6 42·70	·51	1	12·72
199	B.A.C. 5107....	6	15 24 21	...	...	7·124	165 36 3·08	·52	1	12·60
200	ζ^4 Libræ.....	6	15 24 47	...	...	3·378	106 21 39·46	·50	1	12·57
201	α Cor. Borealis	2	15 28 35·50	·44	3	2·529	62 47 52·65	·48	7	12·31
202	η Libræ.....	6	15 35 58·74	·28	3	3·367	105 12 37·07	·28	3	11·78
203	α Serpentis.....	2·3	15 37 10·59	·42	2	2·941	83 7 5·19	·45	9	11·70
204	B.A.C. 5197....	6	15 37 15	...	...	3·561	114 15 32·53	·51	1	11·70
205	B.A.C. 5217....	6·7	15 39 50	...	...	5·389	154 42 40·56	·52	1	11·52
206	β Trian. Aust.	3	15 42 29·72	·49	1	5·236	152 58 49·33	·49	1	11·32
207	λ Libræ.....	6	15 44 58·79	·53	1	3·471	109 43 57·33	·53	1	11·14
208	ρ Scorpii	5·4	15 48 0·17	·30	2	3·689	118 47 22·26	·30	2	10·92
209	π Scorpii.....	3	15 50 8·92	·31	4	3·616	115 41 43·38	·31	4	10·76
210	δ Scorpii	2·3	15 51 49·41	0·68	1	+ 3·535	112 12 28·04	0·49	2	+ 10·63

No.	Star's Name.	Magnitude.	Mean R.A. 1856, Jan. 1.	Fraction of Year for Mean.	No. of Obs. of R.A.	Precess. in R.A.	Mean N.P.D. 1856, Jan. 1.	Fraction of Year for Mean.	No. of Obs. of N.P.D.	Precess. in N.P.D.
			h m s			s.	° ′ ″			″
211	B.A.C. 5309....	6	15 53 42	...	...	+ 2·976	85 9 58·80	0·50	1	+ 10·50
212	β^1 Scorpii.....	2	15 57 4·21	0·30	3	3·477	109 24 26·24	·40	18	10·24
213	δ^1 Apodis.....	5·6	15 58 59	...	...	8·660	168 19 22·47	·52	2	10·10
214	δ^2 Apodis.....	6	15 59 7	...	...	8·649	168 17 42·90	·52	2	10·09
215	B.A.C. 5384....	6	16 3 57	...	...	4·910	147 32 23·60	·51	1	9·73
216	δ Ophiuchi	3	16 6 48·13	·42	1	3·141	93 19 11·72	·43	4	9·50
217	B.A.C. 5412....	6·5	16 8 19·13	·62	9	20·273	176 4 15·17	·62	9	9·39
	B.A.C 5412 S.P.				3		15·97	·63	3	
218	γ Apodis.....	5	16 11 30·90	·53	3	8·954	168 33 46·65	·53	3	9·14
219	σ Scorpii.....	3·4	16 12 26·44	·38	1	3·635	115 14 34·94	·38	1	9·06
220	B.A.C. 5485....	6·5	16 17 45	...	...	4·960	147 25 45·77	·52	1	8·65
221	α Scorpii.....	1·2	16 20 35·06	·66	7	3·667	116 6 28·83	·33	37	8·42
222	β Apodis.....	5	16 22 37·43	·66	2	8·436	167 12 20·96	·66	2	8·27
	β Apodis. S.P.				1		21·80	·66	1	
223	τ Scorpii.....	3·4	16 26 55·45	·35	7	3·723	117 54 45·54	·39	8	7·91
224	η^2 Trian. Aust.	6	16 32 6	...	...	6·115	157 49 38·57	·52	2	7·50
225	B.A.C. 5579....	5	16 33 15·12	·45	1	3·463	107 27 32·97	·45	1	7·41
226	α Trian. Aust.	2	16 33 27	...	...	6·269	158 45 19·48	·47	4	7·39
227	41 Herculis	6·7	16 37 59	...	...	2·932	83 37 54·79	·52	1	7·02
228	25 Scorpii.....	6	16 38 3	...	...	3·663	115 15 42·41	·50	1	7·02
229	ζ Arae	3·4	16 46 43	...	...	4·937	145 45 23·48	·52	1	6·30
230	κ Ophiuchi.....	3·4	16 50 51·27	·56	2	2·856	80 23 50·87	·59	4	5·95
231	ϵ^2 Arae	5·6	16 51 40	...	...	4·769	143 0 52·71	·50	1	5·89
232	29 Ophiuchi....	6	16 53 26	...	...	3·505	108 40 9·76	·50	1	5·74
233	B.A.C. 5760....	6	16 58 7	...	...	3·087	90 41 25·75	·53	1	5·35
234	η Scorpii.....	3·4	17 1 50	...	...	4·281	133 2 38·51	·51	1	5·04
235	B.A.C. 5789....	7	17 3 14	...	...	3·728	116 51 27·80	·52	1	4·92
236	B.A.C. 5794....	6	17 4 38·42	·67	2	11·009	170 42 39·90	·67	2	4·80
237	ι Apodis	5·6	17 6 3·87	·66	2	6·637	159 57 47·61	·61	3	4·68
238	A Ophiuchi (as one mass)	...	17 6 29·85	·52	7	3·718	116 23 10·34	·52	7	4·63
239	α Herculis.....	Var.	17 8 5·00	·49	1	2·734	75 26 31·24	·49	1	4·50
240	θ Ophiuchi.....	3·4	17 13 10·14	·46	4	3·679	114 51 3·64	·49	14	4·06
241	β Arae.....	3	17 13 20	...	...	4·969	145 23 13·52	·52	1	4·06
242	B.A.C. 5855....	6	17 13 47	...	...	4·338	134 1 6·69	·50	2	4·02
243	d Ophiuchi.....	5	17 18 9·71	0·54	2	3·823	119 43 54·66	·49	6	3·63
244	B.A C. 5888....	7	17 18 57	...	...	3·361	102 22 50·96	·53	1	3·57
245	π Arae	6	17 26 17	...	...	+ 4·919	144 23 50·39	0·51	2	+ 2·94

No.	Star's Name.	Magnitude.	Mean R.A. 1856, Jan. 1.	Fraction of Year for Mean.	No. of Obs. of R.A.	Precess. in R.A.	Mean N.P.D. 1856, Jan. 1.	Fraction of Year for Mean.	No. of Obs. of N.P.D.	Precess. in N.P.D.
			h m s			s	° ′ ″			″
246	B.A.C. 5934....	...	17 27 3	...	...	+ 7·179	162 8 25·06	0·51	1	+ 2·87
247	β Draconis.....	3·2	17 27 10·91	0·49	1	1·353	37 35 15·49	·49	1	2·86
248	α Ophiuchi	2	17 28 15	...	...	2·774	77 19 53·68	·50	1	2·76
249	B.A.C. 5936....	6	17 30 1·61	·69	11	35·301	177 38 40·76	·69	11	2·62
	B.A.C.5936 S.P.				3		41·25	·70	5	
250	ε Scorpii.....	3	17 32 32	...	...	4·145	128 56 59·73	·49	1	2·40
251	3 Sagittarii.....	5	17 38 30	...	...	3·773	117 46 16·46	·51	1	1·87
252	B.A.C. 6010....	...	17 38 57	...	...	5·985	155 26 14·27	·50	1	1·84
253	ι^2 Scorpii.... ...	5·6	17 40 7	...	...	4·191	130 2 17·52	·50	1	1·74
254	σ Octantis.....	6	17 40 52·08	·67	11	108·581	179 16 34·81	·65	22	1·67
	σ Octantis. S.P.				6		35·67	·27	37	
255	B.A.C. 6049....	6	17 45 3	...	...	3·328	100 51 34·72	·52	1	1·31
256	4 Sagittarii....	5	17 51 0	...	...	3·661	113 47 51·33	·52	1	0·78
257	γ Draconis.....	2·3	17 53 15·69	·49	1	1·391	38 29 23·18	·49	1	0·59
258	τ Ophiuchi.....	5	17 55 15	...	...	3·264	98 10 32·66	·52	1	0·42
259	γ^1 Sagittarii ...	4	17 55 49·48	·23	1	3·857	119 34 52·29	·23	1	0·29
260	B.A.C. 6112....	6	17 56 25	...	...	4·337	133 25 35·37	·51	1	+ 0·31
261	B.A.C.6156 S.P.	6	18 3 20·29	·11	5	10·883	170 17 14·99	·11	5	− 0·29
262	μ^1 Sagittarii....	4	18 5 9·11	·61	10	3·588	111 5 30·05	·59	20	0·46
263	15 Sagittarii...	5	18 6 38	...	...	3·579	110 45 59·11	·52	1	0·58
264	16 Sagittarii...	6	18 6 39	...	...	3·570	110 25 34·10	·52	1	0·58
265	δ Sagittarii	3·4	18 11 46·47	·39	2	3·839	119 53 2·81	·31	7	1·04
266	B.A.C.6205 S.P.	6	18 12 35·79	·13	5	12·456	171 54 12·09	·13	5	1·10
267	ε Sagittarii.....	3·2	18 14 36·78	·63	13	3·987	124 26 50·68	·63	14	1·29
268	λ Sagittarii....	3	18 19 5·13	·38	1	3·707	115 29 47·11	·38	1	1·68
269	60 Serpentis...	6	18 22 12	...	...	3·120	92 4 27·44	·51	2	1·94
270	61 Serpentis...	6	18 24 31	...	...	3·097	91 6 4·37	·52	1	2·14
271	B.A.C. 6343....	6	18 29 45	...	...	3·652	113 37 23·04	·52	1	2·60
272	α Lyræ.....	1	18 32 3·78	·68	9	2·013	51 20 51·18	·68	9	2·80
273	φ Sagittarii.....	4·3	18 36 39·51	·43	3	3·748	117 8 2·13	·43	3	3·21
274	4 Aquilæ	5·6	18 37 34	...	...	3·028	88 4 57·43	·51	1	3·27
275	β Lyræ.....	Var.	18 44 45·90	·69	9	2·214	56 48 5·94	·69	16	3·90
276	σ Sagittarii	2·3	18 46 20·11	·43	3	3·724	116 28 14·72	·36	5	4·04
277	λ Telescopii....	5·6	18 46 56	...	...	4·817	143 7 16·91	·51	1	4·08
278	62 Serpentis ...	6	18 48 26	...	...	2·924	83 33 40·51	·51	1	4·21
279	ζ Sagittarii.....	3·4	18 53 26·87	·28	5	3·825	120 4 51·56	·28	5	4·65
280	τ Sagittarii.....	4·3	18 57 56·95	0·39	2	+ 3·756	117 52 34·30	0·39	2	− 5·03

No.	Star's Name.	Magnitude.	Mean R.A. 1856, Jan. 1.	Fraction of Year for Mean.	No. of Obs. of R.A.	Precess. in R.A.	Mean N.P.D. 1856, Jan. 1.	Fraction of Year for Mean.	No. of Obs. of N.P.D.	Precess. in N.P.D.
			h m s			s	° ′ ″			″
281	ζ Aquilæ.....	3	18 58 47·52	0·69	7	+ 2·758	76 20 49·89	0·70	9	— 5·09
282	ω Aquilæ.....	6·5	19 11 3·44	·69	9	2·817	78 39 39·17	·69	9	6·13
283	δ Aquilæ.....	3·4	19 18 14·23	·71	2	3·010	87 10 7·83	·71	2	6·72
284	h^3 Sagittarii....	5·4	19 27 56·40	·50	2	3·655	115 11 49·00	·44	3	7·52
285	B.A.C.6706 S.P.	6	19 29 18·69	·11	5	11·549	171 41 51·57	·11	5	7·61
286	γ Aquilæ.....	3	19 39 24·75	·79	2	2·852	79 43	...	...	8·43
287	α Aquilæ.....	1·2	19 43 45·42	·68	8	2·892	81 30 30·55	·36	25	8·78
288	ε Pavonis. S.P.	4	19 43 51·80	·11	5	7·074	163 16 57·60	·11	5	8·78
289	b Sagittarii	5	19 48 6·29	·73	2	3·693	117 32 50·16	·73	2	9·12
290	β Aquilæ	4	19 48 14·36	·79	2	2·946	83 56 58·18	·77	1	9·13
291	* ..... S.P.	8	19 52 25·50	·18	1	9·756	169 59 37·09	·18	1	9·45
292	B.A.C.6859 S.P.	7	19 53 36·62	·14	5	13·794	173 44 24·18	·14	5	9·54
293	c Sagittarii.....	5	19 53 47·80	·31	1	3·699	118 6 21·40	·38	5	9·56
294	B.A.C.6900 S.P.	...	19 59 17·72	·20	5	9·671	170 1 47·76	·20	5	9·97
295	a^2 Capricorni...	3·4	20 10 3·71	·71	7	3·332	102 59 14·92	·67	10	10·79
296	ρ Capricorni...	5	20 20 39	...	...	3·433	108 17 9·09	·73	1	11·56
297	μ^1 Octantis. S.P.	6	20 24 6·62	·31	5	7·638	166 40 37·51	·31	5	11·80
298	B Octantis.....	6·7	20 29 19	...	...	128·630	179 29 41·03	·77	8	12·16
299	υ Capricorni ...	6·5	20 31 50·82	·39	1	3·427	108 38 30·43	·39	1	12·24
300	σ Pavonis. S.P.	5	20 35 36·14	·18	5	5·825	159 17 46·54	·18	5	12·59
301	α Cygni.....	2·1	20 36 31·55	·73	1	2·043	45 13 52·47	·73	1	12·67
302	ψ Capricorni...	4·5	20 37 33·80	·56	4	3·570	115 47 5·38	·49	6	12·73
303	ω Capricorni...	4·5	20 43 13·28	·56	4	3·597	117 27 15·33	·56	4	13·11
304	32 Vulpeculæ..	5·6	20 48 25·54	·75	1	2·555	62 29 15·01	·75	1	13·45
305	o Pavonis. S.P.	5·6	20 59 45·35	·17	5	5·776	160 42 28·63	·17	5	14·17
306	ζ Cygni.....	3	21 6 48·59	·75	1	2·550	60 21 44·18	·75	1	14·61
307	B.A.C.7384 S.P.	6	21 9 54·06	·17	5	10·768	173 18 8·71	·17	5	14·78
308	ι Capricorni ...	4·5	21 14 13·36	·62	1	3·350	107 26 41·53	·67	3	15·04
309	ζ Capricorni....	4	21 18 26·24	·77	1	3·440	113 1 55·91	·77	1	15·28
310	β Aquarii.....	3	21 23 58·51	·58	3	3·163	96 12 7·79	·42	7	15·59
311	λ Octantis. S.P.	5·6	21 28 19·11	·34	4	10·146	173 22 26·92	·34	4	15·82
312	γ Capricorni...	4·3	21 32 6·45	·65	5	3·322	107 18 36·52	·65	5	16·06
313	ε Pegasi.....	2·3	21 37 6·79	·76	2	2·945	80 46 58·09	·53	4	16·29
314	δ Capricorni...	3	21 39 5·25	·60	5	3·304	106 46 41·62	·64	6	16·40
315	μ Capricorni...	5	21 45 26·44	0·77	2	+ 3·259	104 13 38·02	0·77	2	— 16·70

No.	Star's Name.	Magnitude.	Mean R.A. 1856, Jan. 1.	Fraction of Year for Mean.	No. of Obs. of R.A.	Precess. in R.A.	Mean N.P.D. 1856, Jan. 1.	Fraction of Year for Mean.	No. of Obs. of N.P.D.	Precess. in N.P.D.
			h m s			s.	° ′ ″			″
316	16 Pegasi.....	5·6	21 45 30·74	0·75	1	+ 2·725	64 45 4·76	·75	1	— 16·76
317	α Aquarii.....	3	21 58 23·11	·50	2	3·084	91 1 3·00	·42	3	17·31
318	ι Aquarii.....	4	21 58 39·35	·72	3	3·247	104 33 57·97	·70	4	17·32
319	G Octantis.....	6	22 2 37·87	·40	7	14·411	176 41 34·49	·40	7	17·48
	C Octantis. S.P.				9		34·79	·34	15	
320	ε Octantis. S.P.	5·6	22 3 35·79	·32	5	7·250	171 9 8·66	·32	5	17·52
321	θ Aquarii.....	4·5	22 9 13·89	·77	1	3·165	98 29 53·93	·77	1	17·77
322	σ Aquarii.....	5·4	22 23 1·43	·70	1	3·182	101 24 47·01	·70	1	18·30
323	β Octantis.....	5	22 31 2·29	·27	1	6·735	172 8 0·39	·39	1	18·56
	β Octantis. S.P.				5		1·53	·25	5	
324	ζ Pegasi.....	3·4	22 34 16·86	·78	1	2·985	79 55 8·00	·78	1	18·68
325	τ^2 Aquarii.....	4	22 41 57·86	·85	1	3·186	104 21 3·84	·85	1	18·91
326	λ Aquarii.....	4	22 45 5·98	·72	3	3·135	98 20 39·68	·70	4	19·00
327	δ Aquarii.....	3	22 47 0·22	·78	2	3·196	106 35 6·92	·78	2	19·05
328	α Piscis Austr.	1·2	22 49 41·08	·23	2	3·308	120 23 2·62	·24	20	19·13
329	α Pegasi.....	2	22 57 35·40	·85	1	2·980	75 34 6·82	·85	1	19·32
330	τ Octantis.....	6	23 4 8·48	·43	12	13·758	178 16 13·42	·43	12	19·46
	τ Octantis. S.P.				23		13·76	·36	37	
331	ψ^3 Aquarii.....	5·4	23 10 24·99	·77	2	3·122	99 58 3·36	·78	2	19·59
332	ψ^3 Aquarii.....	5	23 11 28·10	·62	2	3·123	100 23 49·47	·62	2	19·61
333	ι Piscium.....	4·5	23 32 32·73	·61	2	3·059	85 9 13·33	·62	4	19·91
334	λ Piscium.....	5	23 34 42·09	·70	1	3·069	89 0 41·86	·70	2	19·94
335	20 Piscium.....	6	23 40 32·34	·70	2	3·079	93 33 41·66	·70	2	19·99
336	δ Sculptoris....	4·5	23 41 25·14	·44	1	3·131	118 55 34·60	·42	3	19·99
337	γ^1 Octantis. S.P.	5·6	23 43 30·11	·46	6	3·835	172 49 8·53	·40	6	20·00
338	γ^2 Octantis.....	5	23 49 30·77	·44	1	3·568	172 58 14·29	·45	1	20·04
	γ^2 Octantis. S.P.				5		13·80	·43	5	
339	ω Piscium.....	4	23 51 54·97	·44	1	3·067	83 56 1·76	·44	1	20·04
340	30 Piscium	5	23 54 34·43	·73	3	3·076	96 48 51·02	·73	3	20·05
341	33 Piscium	5	23 57 57·85	0·70	2	+ 3·073	96 30 46·39	·73	3	— 20·06

Star's Name.	Logarithms of							
	a	*b*	*c*	*d*	*a'*	*b'*	*c'*	*d'*
γ^3 Octantis.....	+9·7396	+7·9086	+0·4637	−9·7863	−8·8282	+9·9967	−1·3022	+8·1690
o Octantis.....	+0·6590	+9·4313	−0·3696	−0·6589	−8·8158	+9·9992	−1·3015	+8·7716
β Hydri.....	+9·5070	+8·4057	+0·4103	−9·4979	−9·2228	+9·9891	−1·3009	+8·8972
B.A.C. 554.....	+9·5547	+9·2101	−9·1182	−9·5280	−9·6969	+9·9492	−1·2583	+9·6813
B.A.C. 557.....	+9·7397	+9·4175	−0·3307	−9·7370	−9·6767	+9·9530	−1·2578	+9·6335
B.A.C. 584.....	+9·8804	+9·5792	−0·6548	−9·8790	−9·6811	+9·9502	−1·2538	+9·6504
γ Hydri.....	+9·1336	+9·3274	−0·0171	−9·1179	−9·9670	+9·7159	−1·0339	+9·9255
δ Mensæ.....	+9·2015	+9·5722	−0·6352	−9·1955	−9·9907	+9·5871	−0·8952	+9·9638
B.A.C. 1587.....	+8·8329	+9·4000	−0·2546	−8·8182	−0·0188	+9·4027	−0·7197	+9·9846
B.A.C. 2085.....	−8·8580	+9·9699	−1·1930	+8·8569	−0·0109	−8·8857	+0·1890	+9·9987
π^3 Doradus	−8·3469	+9·2789	−9·7005	+8·3188	−0·0343	−9·0370	+0·3674	+9·9971
ζ Mensæ	−8·9658	+9·6022	−0·6854	+8·9600	−0·0137	−9·3459	+0·6539	+9·9887
δ Volantis.....	−8·7621	+9·2197	−7·7560	+8·7283	−0·0163	−9·4837	+0·8197	+9·9751
Lalande 15898...	−8·5724	+8·8066	+0·5603	−8·2140	−8·0668	+9·3438	+1·0045	+9·9364
A Octantis.....	−0·1559	+0·2996	−1·5670	+0·1558	−9·9158	−9·7658	+1·0682	+9·9097
θ Chamæleontis.	−9·2439	+9·3789	−0·2061	+9·2327	−9·9462	−9·7603	+1·0738	+9·9067
* R.A. 9h 10m 40s N.P.D. 80° 6′	−8·6992	+8·6587	+0·5089	−7·9346	−9·4937	+9·1042	+1·1710	+9·8283
ζ Octantis	−9·7695	+9·7062	−0·8505	+9·7678	−9·8381	−9·8772	+1·1811	+9·8156
ι Chamæleontis..	−9·4889	+9·3788	−0·2027	+9·4825	−9·8314	−9·8912	+1·1999	+9·7875
* R.A. 9h 31m 50s N.P.D. 83° 10′	−8·7291	+8·6069	+0·5007	−7·8050	−9·5553	+8·9780	+1·2043	+9·7799
ζ Chamæleontis.	−9·5075	+9·3610	−0·1667	+9·5013	−9·8100	−9·9044	+1·2128	+9·7641
Weisse. IX. 888.	−8·7402	+8·5828	+0·4977	−7·7814	−9·5751	+8·9054	+1·2165	+9·7568
* R.A. 9h 48m 8s N.P.D. 85° 29′	−8·7490	+8·5610	+0·4953	−7·6446	−9·5909	+8·8194	+1·2260	+9·7357
* R.A. 9h 55m 16s N.P.D. 86° 48′	−8·7568	+8·5387	+0·4927	−7·5045	−9·6067	+8·6799	+1·2345	+9·7141
μ^1 Chamæleontis	−9·5973	+9·3393	−0·1006	+9·5925	−9·7335	−9·9375	+1·2445	+9·6842
μ^2 Chamæleontis	−9·5676	+9·2992	−9·9405	+9·5620	−9·7303	−9·9390	+1·2468	+9·6763
ω Argûs.....	−9·2242	+8·9392	+0·1581	+9·1953	−9·7665	−9·9193	+1·2505	+9·6633
24 Sextantis.....	−8·7777	+8·4654	+0·4870	+6·2621	−9·6388	−7·4382	+1·2560	+9·6415
* R.A. 10h 32m 30s N.P.D. 92° 46′	−8·7920	+8·3956	+0·4838	+7·4767	−9·6546	−8·6523	+1·2698	+9·5712
* R.A. 10h 39m 31s N.P.D. 93° 57′	−8·7976	+8·3615	+0·4827	+7·6365	−9·6596	−8·8115	+1·2749	+9·5366
δ^1 Chamæleontis	−9·5475	+9·0854	+9·8252	+9·5405	−9·6004	−9·9685	+1·2778	+9·5134
δ^2 Chamæleontis	−9·5509	+9·0855	+9·8246	+9·5439	−9·5975	−9·9690	+1·2782	+9·5105
* R.A. 10h 55m 48s N.P.D. 96° 27′	−8·8094	+8·2684	+0·4813	+7·8597	−9·6649	−9·0330	+1·2849	+9·4418
η Octantis.....	−9·7769	+9·2036	−9·0579	+9·7744	−9·4819	−9·9825	+1·2873	+9·4118
* R.A. 11h 3m 48s N.P.D. 97° 28′	−8·8144	+8·2128	+0·4812	+7·9279	−9·6645	−9·1003	+1·2890	+9·3852

Star's Name.	Logarithms of							
	a	*b*	*c*	*d*	*a'*	*b'*	*c'*	*d'*
* R.A. 11h 19m 2s N.P.D. 99° 57′	−8·8235	+8·0805	+0·4813	+8·0613	−9·6610	−9·2308	+1·2952	+9·2500
Weisse. XI. 475.	−8·8281	+7·9809	+0·4819	+8·1199	−9·6562	−9·2875	+1·2979	+9·1485
* R.A. 11h 36m 44s N.P.D. 102° 20′	−8·8318	+7·8399	+0·4830	+8·1614	−9·6490	−9·3274	+1·3000	+9·0058
Lalande 23305...	−8·8435	−7·7955	+0·4926	+8·3291	−9·5864	−9·4839	+1·3005	−8·9503
* R.A. 12h 28m 25s N.P.D. 108° 46	−8·8443	−7·9399	+0·4951	+8·3518	−9·5695	−9·5042	+1·2989	−9·0923
* R.A. 12h 29m... N.P.D. 179° 0′	−0·5820	−9·6861	+1·1074	+0·5820	+9·0738	−9·9965	+1·2988	−9·1006
* R.A. 12h 35m 2s N.P.D. 109° 44′	−8·8451	−8·0329	+0·4974	+8·3738	−9·5527	−9·5236	+1·2971	−9·1827
ε Octantis.....	−9·8231	−9·0727	+0·7349	+9·8210	+9·1182	−9·9911	+1·2955	−9·2332
* R.A. 12h 44m 32s N.P.D. 110° 39′	−8·8445	−8·1886	+0·5008	+8·3918	−9·5289	−9·5391	+1·2940	−9·2859
* R.A. 12h 52m 50s N.P.D. 111° 34′	−8·8438	−8·2143	+0·5040	+8·4093	−9·5045	−9·5539	+1·2906	−9·3589
ψ Hydræ	−8·8421	−8·2800	+0·5073	+8·4221	−9·4784	−9·5643	+1·2865	−9·4222
* R.A. 13h 9m 42s N.P.D. 113° 7′	−8·8399	−8·3366	+0·5108	+8·4339	−9·4495	−9·5736	+1·2818	−9·4763
B.A.C. 4460.....	−9·8674	−9·3895	+0·9015	+9·8658	+9·4430	−9·9756	+1·2794	−9·4993
κ Octantis	−9·8617	−9·4137	+0·9164	+9·8601	+9·4728	−9·9724	+1·2763	−9·5260
* R.A. 13h 40m 57s N.P.D. 115° 56′	−8·8264	−8·4998	+0·5248	+8·4673	−9·3091	−9·5973	+1·2587	−9·6298
θ Apodis	−9·3897	−9·1129	+0·7479	+9·3769	+9·5434	−9·9336	+1·2487	−9·6697
δ Octantis	−9·6708	−9·4511	+0·9392	+9·6676	+9·6624	−9·9294	+1·2349	−9·7130
ε Apodis	−9·4922	−9·2768	+0·8325	+9·4848	+9·6352	−9·9241	+1·2337	−9·7161
ε Octantis	−0·1023	−9·9573	+1·3269	+0·1024	+9·7502	−9·9099	+1·2125	−9·7648
B.A.C. 4883.....	−9·5893	−9·5040	+0·9807	+9·5855	+9·7641	−9·8801	+1·1861	−9·8086
ρ Octantis.....	−9·6306	−9·6716	+1·0946	+9·6282	+9·8388	−9·8256	+1·1302	−9·8690
B.A.C. 5107.....	−9·2264	−9·3194	+0·8528	+9·2125	+9·8102	−9·7841	+1·1002	−9·8911
B.A.C. 5217.....	−8·9523	−9·1064	+0·7315	+8·9086	+9·7442	−9·7153	+1·0613	−9·9131
β Trian. Aust...	−8·9183	−9·0832	+0·7189	+8·8681	+9·7308	−9·7015	+1·0540	−9 9167
δ^1 Apodis.....	−9·2199	−9·4541	+0·9375	+9·2108	+9·8797	−9·6931	+1·0044	−9·9365
δ^2 Apodis.....	−9·2186	−9·4533	+0·9369	+9 2094	+9·8797	−9·6928	+1·0041	−9·9366
B.A.C. 5412.....	−9·6586	−9·9344	+1·3069	+9·6576	+9·9303	−9·6693	+0·9726	−9·9462
γ Apodis.....	−9·1856	−9·4761	+0·9521	+9·1770	+9·8956	−9·6502	+0·9611	−9·9494
β Apodis.....	−9·0936	−9·4382	+0·9261	+9·0827	+9·8989	−9·6041	+0·9172	−9·9596
η^2 Trian. Aust...	−8·8184	−9·2149	+0·7866	+8·7851	+9·8420	−9·5397	+0·8753	−9·9673
B.A.C. 5794.....	−8·9947	−9·6031	+1·0417	+8·9890	+9·9485	−9·3730	+0·6810	−9·9872
ι Apodis.....	−8·6566	−9·2770	+0·8220	+8·6295	+9·8836	−9·3404	+0·6698	−9·9879
B.A.C. 5934.....	−8·4935	−9·3328	+0·8561	+8·4721	+9·9079	−9·1348	+0·4585	−9·9955
B.A.C. 5936.....	−9 3254	−0·2064	+1·5478	+9·3250	+9·9880	−9·1151	+0·4175	−9·9963
B.A.C. 6010.....	−8·1674	−9·2033	+0·7770	+8·1262	+9·8605	−8·9211	+0·2646	−9·9982

Star's Name.	Logarithms of							
	a	*b*	*c*	*d*	*a'*	*b'*	*c'*	*d'*
σ Octantis.....	−9·6437	−0·7210	+2·0357	+9·6436	+9·9961	−8·9211	+0·2234	−9·9985
B.A.C. 6156	+7·7339	−9·5967	+1·0367	−7·7276	+9·9601	+8·1309	−9·4394	−9·9999
B.A.C. 6205	+8·4110	−9·6749	+1·0956	−8·4066	+9·9673	+8·7311	−0·0377	−9·9994
B.A.C. 6708	+9·2430	−9·6309	+1·0628	−9·2384	+9·9310	+9·5738	−0·8806	−9·9664
ε Pavonis.....	+9·0063	−9·3188	+0·8497	−8·9875	+9·8670	+9·6226	−0·9435	−9·9538
* {R.A.19h 52m 25s / N.P.D. 170° 0'}	+9·2571	−9·5295	+0·9893	−9·2727	+9·8994	+9·6665	−0·9754	−9·9455
B.A.C. 6859	+9·4631	−9·7307	+1·1396	−9·4604	+9·9176	+9·6742	−0·9791	−9·9444
B.A.C. 6900	+9·2818	−9·5239	+0·9854	−9·2752	+9·8918	+9·6897	−0·9985	−9·9384
μ^1 Octantis.....	+9·2309	−9·3692	+0·8829	−9·2191	+9·8369	+9·7577	−1·0718	−9·9078
B Octantis.....	+0·6614	−0·7789	+2·0920	−0·6614	+9·8983	+9·7829	−1·0851	−9·9004
σ Pavonis.....	+9·0734	−9·1666	+0·7653	−9·0444	+9·7594	+9·7689	−1·1002	−9·8911
o Pavonis.....	+9·1539	−9·1548	+0·7616	−9·1288	+9·7200	+9·8239	−1·1512	−9·8500
B.A.C. 7384	+9·6243	−9·5874	+1·0323	−9·6213	+9·7932	+9·8642	−1·1694	−9·8362
λ Octantis.....	+9·6586	−9·5505	+1·0063	−9·6557	+9·7487	+9·8940	−1·1991	−9·7888
C Octantis.....	+0·0032	−9·7531	+1·1587	−0·0025	+9·6667	+9·9397	−1·2426	−9·6902
ε Octantis.....	+9·5780	−9·3242	+0·8605	−9·5728	+9·6174	+9·9360	−1·2435	−9·6874
β Octantis.....	+9·6541	−9·2657	+0·8283	−9·6500	+9·4990	+9·9623	−1·2686	−9·5781
τ Octantis.....	+0·3311	−9·7267	+1·1385	−0·3309	+9·3582	+9·9868	−1·2892	−9·3826
γ^1 Octantis.....	+9·7259	−8·5844	+0·5838	−9·7225	+8·2328	+9·9955	−1·3011	−8·8571
γ^2 Octantis.....	+9·7358	−8·3972	+0·5524	−9·7326	−7·8760	+9·9963	−1·3018	−8·6609

ROYAL OBSERVATORY,

CAPE OF GOOD HOPE,

RIGHT ASCENSIONS AND NORTH POLAR DISTANCES

OF THE

SUN, MOON, AND PLANETS,

DEDUCED FROM THE OBSERVATIONS,

AND

COMPARED WITH THE NAUTICAL ALMANAC,

TOGETHER WITH

OCCULTATIONS OF STARS,

OBSERVED IN 1856,

AND

OBSERVATIONS OF ENCKE'S COMET IN THE YEAR 1855.

Cape Mean Solar Time of Transit of Centre.	Observer.	Observed R.A.	Seconds of Tabular R.A.	Correction to the Tabular R.A.	Observed N.P.D.	Seconds of Tabular N.P.D.	Correction to the Tabular N.P.D.
1856. d h m s		h m s	s	s	° ′ ″	″	″
Jan. 1 0 3 34·6	T	... ...	...	...	113 3 41·30	42·68	− 1·38
5 0 5 26·5	T	19 2 21·70	21·52	+ 0·18	... ...	...	...
18 0 10 33·4	G	19 58 44·66	44·60	+ 0·06	... ...	...	...
Mar. 17 0 8 26·6	G	23 49 14·31	14·13	+ 0·18	... ...	...	...
18 0 8 8·7	W	23 52 52·88	52·82	+ 0·06	... ...	...	...
19 0 7 50·6	T	... ...	...	...	90 22 37·36	38·08	− 0·72
20 0 7 32·4	T	0 0 9·65	9·70	− 0·05	... ...	...	...
21 0 7 14·1	T	0 3 (47·83)	47·94	(− 0·11)	89 35 14·62	16·18	− 1·56
22 0 6 55·8	G	0 7 21·29	26·07	(− 4·78)	89 11 35·92	36·92	− 1·00
24 0 6 18·9	T	... ...	...	...	88 24 21·87	23·22	− 1·35
26 0 5 42·0	T	0 21 58·21	58·07	+ 0·14	87 37 16·05	18·17	− 2·12
27 0 5 23·3	T	... ...	...	...	87 13 47·31	49·81	− 2·50
28 0 5 5·0	T	0 29 14·27	14·06	+ 0·21	... ...	...	...
29 0 4 46·4	T	... ...	...	...	86 27 2·69	2·94	− 0·25
31 0 4 9·8	G	0 40 8·54	8·49	+ 0·05	... ...	...	...
April 2 0 3 33·8	T	0 47 25·53	25·30	+ 0·23	... ...	...	...
3 0 3 15·6	T	... ...	...	...	84 31 18·04	19·82	− 1·78
7 0 2 5·9	G	1 5 40·17	40·12	+ 0·05	... ...	...	...
9 0 1 32·2	T	... ...	...	...	82 15 38·96	40·03	− 1·07
10 0 1 15·7	T	... ...	...	...	81 53 27·18	28·91	− 1·73
11 0 0 59·6	T	1 20 19·89	19·85	+ 0·04	... ...	...	...
14 0 0 12·6	T	... ...	...	...	80 26 13·06	10·47	(+ 2·59)
16 23 59 28·9	T	1 42 28·29	28·15	+ 0·14	... ...	...	...
20 23 58 35·9	G	1 57 21·41	21·05	+ 0·36	... ...	...	...
22 23 58 11·6	T	... ...	...	...	77 19 34·58	35·59	− 1·01
23 23 58 0·4	T	2 8 35·48	35·36	+ 0·12	... ...	...	...
24 23 57 49·5	T	... ...	...	...	76 40 14·63	15·89	− 1·26
25 23 57 39·2	T	... ...	...	...	76 20 53·07	55·42	− 2·35
27 23 57 20·3	T	2 23 41·42	41·40	+ 0·02	... ...	...	...
May 1 23 56 48·7	T	... ...	...	...	74 29 41·56	43·31	− 1·75
2 23 56 42·3	G	2 42 46·16	46·03	+ 0·13	... ...	...	...
4 23 56 30·8	T	... ...	...	...	73 37 27·80	29·26	− 1·46
6 23 56 21·8	T	... ...	...	...	73 3 59·65	60·76	− 1·11
8 23 56 15·0	T	3 5 58·11	58·05	+ 0·06	... ...	...	...
9 23 56 12·4	T	... ...	...	...	72 15 54·35	55·99	− 1·64
11 23 56 9·0	T	3 17 41·77	41·64	+ 0·13	... ...	...	...

The Observations of the Sun were generally made by projection upon a screen.
March 21st. The clock error is uncertain.
April 14th. The Observation of the S. L. seems to be erroneous about 8′.

(continued.)

Cape Mean Solar Time of Transit of Centre.	Observer.	Observed R.A.	Seconds of Tabular R.A.	Correction to the Tabular R.A.	Observed N.P.D.	Seconds of Tabular N.P.D.	Correction to the Tabular N.P.D.
1856. d h m s		h m s	s	s	° ′ ″	″	″
May 14 23 56 8·0	T	3 29 (30·40)	30·22	(+ 0·18)	...	...	...
15 23 56 8·5	T	... ...	...	...	70 47 54·57	56·71	— 2·14
16 23 56 9·8	T	... ...	...	...	70 34 20·63	23·61	(— 2·98)
20 23 56 20·5	T	... ...	...	...	69 43 28·90	30·86	— 1·96
21 23 56 24·6	T	3 57 23·03	22·94	+ 0·09	... ...	...	...
27 23 56 59·8	T	... ...	...	...	68 27 52·84	53·83	— 0·99
29 23 57 15·4	G	4 29 46·35	46·48	— 0·13	... ...	...	...
30 23 57 24·0	T	... ...	...	...	68 0 58·94	59·15	— 0·21
June 1 23 57 42·4	T	4 42 3·09	3·03	+ 0·06	... ...	...	...
2 23 57 52·0	T	... ...	...	...	67 37 30·02	30·59	— 0·57
3 23 58 2·1	T	... ...	...	...	67 30 26·08	27·77	— 1·69
4 23 58 12·5	W	4 54 23·03	23·04	— 0·01	... ...	...	...
5 23 58 23·3	T	... ...	...	...	67 17 32·81	33·22	— 0·41
6 23 58 34·5	G	5 2 38·13	38·00	+ 0·13	... ...	...	...
8 23 58 57·2	W	... ...	...	...	67 1 12·63	11·01	+ 1·62
10 23 59 21·0	T	... ...	...	...	66 52 16·30	17·41	— 1·11
13 23 59 58·3	W	5 31 38·00	37·75	+ 0·25	... ...	...	...
16 0 0 23·2	W	... ...	...	...	66 37 11·60	12·20	— 0·60
17 0 0 36·0	T	... ...	...	...	66 35 24·52	25·03	— 0·51
19 0 1 1·7	T	... ...	...	...	66 33 4·70	5·09	— 0·39
20 0 1 14·6	T	... ...	...	...	66 32 31·67	32·22	— 0·55
21 0 1 27·5	T	... ...	...	...	66 32 24·21	24·05	+ 0·16
23 0 1 53·4	T	6 9 2·57	2·37	+ 0·20	... ...	...	...
25 0 2 18·7	T	... ...	...	...	66 35 58·67	59·26	— 0·59
26 0 2 31·3	T	... ...	...	...	66 37 53·07	54·80	— 1·73
27 0 2 43·8	T	... ...	...	...	66 40 14·84	15·03	— 0·19
28 0 2 56·1	T	... ...	...	...	66 42 58·55	59·88	— 1·33
30 0 3 20·2	G	... ...	...	...	66 49 42·80	43·06	— 0·26
July 1 0 3 32·0	T	... ...	...	...	66 53 41·91	41·32	+ 0·59
3 0 3 54·6	T	... ...	...	...	67 2 50·88	50·43	+ 0·45
4 0 4 5·5	T	... ...	...	...	67 8 1·27	1·10	+ 0·17
5 0 4 16·1	G	... ...	...	...	67 13 35·98	35·79	+ 0·19
7 0 4 36·1	W	... ...	...	...	67 25 57·77	56·15	+ 1·62
8 0 4 45·5	T	... ...	...	...	67 32 42·39	41·65	+ 0·74
10 0 5 3·3	T	7 19 14·50	14·31	+ 0·19	... ...	...	...

May 15th. The clock error is uncertain.
May 17th. The Observation doubtful if not useless.

(concluded.)

Cape Mean Solar Time of Transit of Centre.	Observer.	Observed R.A.	Seconds of Tabular R.A.	Correction to the Tabular R.A.	Observed N.P.D.	Seconds of Tabular N.P.D.	Correction to the Tabular N.P.D.
1856. d h m s		h m s	s	s	° ′ ″	″	″
July 11 0 5 11·3	T	... ...	...	...	67 55 17·26	16·82	+ 0·44
12 0 5 19·0	T	7 27 23·32	23·26	+ 0·06	... ...	...	...
Sept. 7 23 57 27·9	G	11 8 11·18	11·23	— 0·05	... ...	...	...
10 23 56 25·7	W	11 18 58·48	58·58	— 0·10	... ...	...	...
11 23 56 4·7	T	11 22 34·01	34·11	— 0·10	... ...	...	...
15 23 54 40·2	G	... ...	...	...	87 30 6·68	7·57	— 0·89
16 23 54 18·9	G	11 40 30·61	30·75	— 0·14	... ...	...	...
19 23 53 15·6	T	11 51 16·81	16·80	+ 0·01	... ...	...	...
21 23 52 33·6	G	11 58 27·86	27·91	— 0·05	... ...	...	...
22 23 52 12·9	G	... ...	...	...	90 13 24·29	24·19	+ 0·10
23 23 51 52·4	W	12 5 39·64	39·53	+ 0·11	... ...	...	...
24 23 51 31·9	W	... ...	...	...	91 0 14·24	14·85	— 0·61
25 23 51 11·6	...	12 12 51·86	51·84	+ 0·02	... ...	...	...
26 23 50 51·6	T	... ...	...	...	91 47 4·98	5·59	— 0·61
29 23 49 52·8	W	12 27 18·98	19·05	— 0·07	... ...	...	...
30 23 49 33·8	W	... ...	...	...	93 20 32·80	35·50	— 2·70
Oct. 1 23 49 14·9	W	12 34 34·12	34·24	— 0·12	... ...	...	...
2 23 48 56·6	W	... ...	...	...	94 7 6·73	8·37	— 1·64
3 23 48 38·4	T	12 41 50·63	50·67	— 0·04	... ...	...	...
5 23 48 3·2	G	... ...	...	...	95 16 32·62	34·22	— 1·60
8 23 47 13·3	T	13 0 8·09	8·09	0·00	... ...	...	...
9 23 46 57·5	W	... ...	...	...	96 48 7·29	9·13	— 1·84
10 23 46 42·2	W	13 7 30·00	30·02	— 0·02	... ...	...	...
Nov. 23 23 46 58·8	G	16 1 15·06	14·87	+ 0·19	... ...	...	...
Dec. 12 23 54 35·6	T	... ...	...	...	113 11 56·48	56·65	— 0·17
19 23 58 1·3	T	... ...	...	...	113 27 17·80	17·84	— 0·04
21 23 59 1·4	T	... ...	...	...	113 27 26·22	27·34	— 1·12
22 23 59 31·5	T	... ...	...	...	113 26 48·30	49·61	— 1·31
24 0 0 1·5	T	... ...	...	...	113 25 42·74	43·47	— 0·73
26 0 1 1·4	T	... ...	...	...	113 22 4·88	6·17	— 1·29
30 0 2 59·4	T	... ...	...	...	113 9 13·14	13·52	— 0·38

Sept. 25th. The R.A. is the mean of the observations of T. and W.

Cape Mean Solar Time of Transit of Centre.	Observer.	Observed R.A.	Seconds of Tabular R.A.	Correction to the Tabular R.A.	Observed N.P.D.	Seconds of Tabular N.P.D.	Correction to the Tabular N.P.D.
1856. d h m s		h m s	s	s	° ′ ″	″	″
Jan. 1 19 8 47·2	T	13 53 4·01	4·26	−0·25	101 32 55·68	61·43	− 5·75
2 19 53 11·3	T	14 41 31·99	32·09	−0·10	106 49 26·86	34·44	− 7·58
3 20 41 51·0	T	15 34 16·22	16·32	−0·10	111 29 2·43	7·72	− 5·29
4 21 35 36·3	T	16 32 6·91	7·08	−0·17	... ...	...	...
15 6 45 54·9	T	2 23 21·46	21·84	−0·38	74 55 49·24	40·98	+ 8·26
17 8 28 58·1	T	... ...	...	...	65 42 53·62	46·11	+ 7·51
18 9 23 43·5	G	5 13 25·67	26·09	−0·42	... ...	...	...
19 10 19 26·3	T	6 13 14·16	14·62	−0·46	62 5 37·04	37·01	+ 0·03
20 11 14 26·1	T	7 12 19·59	19·81	−0·22	62 40 49·62	48·30	+ 1·32
24 14 24 57·4	W	10 39 8·41	8·56	−0·15	77 13 57·03	57·36	− 0·33
25 15 5 22·8	W	11 23 36·96	37·05	−0·09	82 36 38·68	38·60	+ 0·08
26 15 44 31·1	G	12 6 48·27	48·16	+0·11	88 14 4·89	4·08	+ 0·81
27 16 23 27·8	G	... ...	...	...	93 55 60·16	58·82	+ 1·34
28 17 3 23·3	G	... ...	...	...	99 32 34·29	35·54	− 1·25
29 17 45 30·6	G	14 19 57·34	57·38	−0·04	104 52 59·93	62·98	− 3·05
30 18 31 3·9	G	15 9 34·65	34·64	+0·01	109 43 42·61	47·66	− 5·05
31 19 21 7·7	G	16 3 43·26	43·33	−0·07	113 46 55·44	60·70	− 5·26
Feb. 1 20 16 16·7	G	17 2 57·85	58·06	−0·21	116 40 4·20	11·09	− 6·89
13 6 25 9·8	T	3 56 53·15	53·24	−0·09	66 32 51·19	45·15	+ 6·04
14 7 19 34·4	T	4 55 23·24	23·84	−0·60	63 30 52·21	46·40	+ 5·81
15 8 14 55·6	T	... ...	...	...	62 2 53·53	52·20	+ 1·33
16 9 9 46·9	G	6 53 46·91	47·53	−0·62	62 10 54·45	61·57	− 7·12
17 10 2 41·7	G	7 50 46·94	47·22	−0·28	63 49 14·75	20·88	− 6·13
18 10 52 36·6	G	8 44 46·64	46·63	+0·01	66 45 33·63	37·44	− 3·81
19 11 39 10·0	G	9 35 24·20	24·22	−0·02	70 44 17·27	21·73	− 4·46
21 13 3 38·1	G	... ...	...	...	80 46 39·56	46·70	− 7·14
22 13 43 4·5	W	11 51 28·74	28·83	−0·09	86 22 49·71	52·10	− 2·39
25 15 42 4·7	T	14 2 38·13	38·28	−0·15	103 13 16·60	18·14	− 1·54
26 16 25 34·3	T	14 50 11·43	11·39	+0·04	108 13 18·34	18·81	− 0·47
27 17 12 44·1	T	15 41 25·53	25·60	−0·07	... ...	...	...
28 18 4 18·7	T	16 37 5·22	5·21	+0·01	115 50 50·01	56·26	− 6·25
29 19 0 22·6	T	17 37 14·80	14·75	+0·05	117 48 57·65	60·64	− 2·99
Mar. 1 19 59 58·5	T	... ...	...	...	118 5 43·15	44·52	− 1·37
14 7 5 8·8	T	6 35 15·30	15·99	−0·69	61 47 22·80	25·45	− 2·65
15 7 59 7·2	G	7 33 19·15	19·77	−0·62	63 0 12·55	14·95	− 2·40
16 8 49 58·6	T	8 28 15·47	16·00	−0·53	65 35 9·28	14·08	− 4·80
17 9 37 20·3	G	... ...	...	...	69 16 40·46	48·99	− 8·53
18 10 21 25·8	T	10 7 50·74	50·81	−0·07	73 49 9·02	15·34	− 6·32
19 11 2 54·8	T	10 53 23·11	23·07	+0·04	78 58 1·46	8·45	− 6·99
20 11 42 38·4	T	11 37 9·85	10·08	−0·23	84 30 31·57	38·94	− 7·37
24 14 23 35·6	T	14 34 19·69	19·99	−0·30	106 46 39·78	44·18	− 4·40

(continued.)

Cape Mean Solar Time of Transit of Centre.	Observer.	Observed R.A.	Seconds of Tabular R.A.	Correction to the Tabular R.A.	Observed N.P.D.	Seconds of Tabular N.P.D.	Correction to the Tabular N.P.D.
1856. d h m s		h m s	s	s	° ′ ″	″	″
Mar. 27 16 52 19·7	T	17 15 17·87	17·99	— 0·12	117 25 54·80	57·56	— 2·76
28 17 49 13·5	T	... ...	...	...	118 20 25·56	30·94	— 5·38
29 18 48 0·2	T	19 19 10·51	10·57	— 0·06	117 29 56·30	62·16	— 5·86
30 19 46 46·3	T	20 22 2·80	2·53	+ 0·27	114 50 6·06	12·04	— 5·98
April 11 5 52 5·1	T	7 12 23·07	23·86	— 0·79	62 18 18·87	19·42	— 0·55
12 6 45 8·8	T	... ...	...	...	64 28 15·86	18·10	— 2·24
13 7 34 13·2	T	9 2 41·13	41·96	— 0·83	67 51 13·62	21·64	— 8·02
14 8 19 32·6	G	9 52 4·49	5·06	— 0·57	72 9 49·00	58·83	— 9·83
15 9 1 47·6	G	10 38 22·99	23·60	— 0·61	77 8 34·66	46·52	— 11·86
16 9 41 55·7	T	11 22 34·26	34·48	— 0·22	82 34 37·62	46·78	— 9·16
17 10 20 57·8	T	12 5 39·29	39·63	— 0·34	88 16 34·17	43·83	— 9·66
19 11 39 57·5	T	13 32 45·08	45·10	— 0·02	99 45 20·59	28·32	— 7·73
20 12 21 59·0	T	14 18 50·10	49·90	+ 0·20	105 8 39·61	41·38	— 1·77
21 13 6 57·6	T	15 7 52·61	52·82	— 0·21	109 58 54·58	57·73	— 3·15
22 13 55 36·0	T	16 0 35·57	35·86	— 0·29	113 59 3·78	9·27	— 5·49
24 15 43 53·8	G	17 57 4·29	4·73	— 0·44	118 14 41·92	39·24	+ 2·68
25 16 41 34·9	G	18 58 51·40	51·76	— 0·36	117 58 21·20	21·88	— 0·68
26 17 39 17·4	T	20 0 39·93	40·42	— 0·49	115 56 48·94	52·31	— 3·37
27 18 35 25·4	T	21 0 53·66	54·25	— 0·59	112 15 42·37	44·53	— 2·16
May 10 5 27 24·3	T	... ...	...	...	66 26 12·32	15·06	— 2·74
11 6 14 55·3	T	9 33 33·72	34·50	— 0·78	70 29 0·67	6·89	— 6·22
12 6 58 41·5	G	10 21 23·65	24·35	— 0·70	75 17 1·83	11·91	— 10·08
13 7 39 41·5	W	11 6 26·99	27·69	— 0·70	80 35 34·46	46·84	— 12·38
14 8 19 3·4	G	11 49 51·85	52·42	— 0·57	86 12 51·80	63·66	— 11·86
16 9 37 28·1	G	13 16 22·56	22·77	— 0·21	97 42 59·09	68·11	— 9·11
20 12 42 43·0	W	16 37 54·10	54·23	— 0·13	115 59 0·28	4·77	— 4·49
21 13 38 21·4	G	17 37 38·21	38·53	— 0·32	117 53 49·85	50·95	— 1·10
22 14 36 19·7	W	18 39 42·64	42·98	— 0·34	118 9 7·32	6·44	+ 0·88
23 15 34 35·6	G	19 42 4·62	4·96	— 0·34	116 38 5·72	0·92	+ 4·80
28 19 53 34·6	G	0 21 28·94	29·04	— 0·10	89 27 45·93	38·74	+ 7·19
June 9 5 35 27·4	T	10 48 19·50	20·27	— 0·77	78 34 25·47	32·33	— 6·86
10 6 15 35·2	T	11 32 30·45	31·02	— 0·57	84 7 9·38	18·52	— 9·14
11 6 54 34·7	T	12 15 32·94	33·58	— 0·64	89 50 34·83	45·77	— 10·94
14 8 56 51·5	W	14 29 59·49	59·63	— 0·14	106 25 58·89	69·72	— 10·83
15 9 43 14·4	G	15 20 26·58	26·68	— 0·10	111 5 27·20	38·95	— 11·75
16 10 33 54·5	G	16 15 11·58	11·71	— 0·13	114 50 25·08	35·01	— 9·93
27 20 18 45·7	T	2 45 0·97	0·86	+ 0·11	71 58 39·57	27·76	+ 11·81
July 10 6 9 1·8	T	... ...	...	...	99 7 20·36	28·73	— 8·37
11 6 50 22·0	T	14 9 36·32	36·59	— 0·27	104 29 10·66	19·09	— 8·43

(continued.)

Cape Mean Solar Time of Transit of Centre.	Observer.	Observed R.A.	Seconds of Tabular R.A.	Correction to the Tabular R.A.	Observed N.P.D.	Seconds of Tabular N.P.D.	Correction to the Tabular N.P.D.
1856. d h m s		h m s	s	s	° ′ ″	″	″
July 12 7 34 44·1	W	14 58 2·25	2·47	−0·22	109 21 46·52	55·57	− 9·05
14 9 16 7·3	G	16 47 35·17	35·45	−0·28	116 30 39·05	51·24	−12·19
18 13 11 43·4	G	20 59 36·28	37·32	−1·04	... ...	...	...
23 17 25 12·0	T	1 33 29·25	29·70	−0·45	79 35 52·05	46·17	+ 5·88
27 21 1 26·6	T	5 26 5·61	6·28	−0·67	... ...	...	...
Aug. 10 7 3 49·5	T	16 21 22·75	23·24	−0·49	115 31 25·67	33·94	− 8·27
11 7 58 20·0	G	17 19 58·72	59·31	−0·59	117 44 0·07	10·15	−10·08
14 10 56 7·7	W	20 30 5·30	6·49	−1·19	114 1 14·55	15·35	− 0·80
15 11 53 31·3	T	21 31 34·90	36·14	−1·24	109 13 34·80	32·90	+ 1·90
16 12 47 59·0	T	22 30 8·07	9·28	−1·21	103 7 9·82	8·78	+ 1·04
17 13 39 50·7	T	23 26 4·86	5·97	−1·11	96 10 36·42	32·76	+ 3·66
18 14 30 6·7	G	0 20 25·69	26·59	−0·90	88 53 32·71	28·04	+ 4·67
22 17 59 14·1	T	4 5 53·66	54·14	−0·48	65 14 18·54	9·56	+ 8·98
23 18 56 33·0	T	5 7 18·52	19·42	−0·90	62 31 42·37	36·32	+ 6·05
Sept. 6 4 55 27·2	T	15 59 6·37	6·98	−0·61	114 27 29·98	33·63	− 3·65
7 5 46 59·7	T	16 54 43·86	44·49	−0·63	117 9 39·70	43·09	− 3·39
8 6 42 16·4	G	17 54 6·23	6·93	−0·70	118 27 26·68	27·60	− 0·92
10 8 38 47·8	W	19 58 49·86	50·70	−0·84	115 53 51·96	50·74	+ 1·22
11 9 36 26·8	W	21 0 34·83	35·64	−0·81	111 56 34·12	33·01	+ 1·11
13 11 25 20·2	T	22 57 39·25	40·14	−0·89	99 48 20·73	14·41	+ 6·32
14 12 17 8·1	T	... ...	...	...	92 28 24·83	18·30	+ 6·53
15 13 8 28·1	G	0 48 57·24	57·91	−0·67	84 58 15·52	8·78	+ 6·74
16 14 0 37·0	G	1 45 11·22	11·88	−0·66	77 49 5·01	1·42	+ 3·59
18 15 51 1·8	W	3 43 47·25	47·88	−0·63	66 29 44·56	36·71	+ 7·85
19 16 49 29·7	T	4 46 21·32	22·07	−0·75	63 6 25·08	19·07	+ 6·01
20 17 48 42·3	T	5 49 40·19	41·22	−1·03	... ...	...	...
21 18 46 44·4	T	6 51 48·38	49·48	−1·10	61 47 35·77	36·08	− 0·31
Oct. 4 3 40 52·2	T	16 34 42·60	43·66	−1·06	116 25 49·35	52·40	− 3·05
9 8 16 56·1	T	21 31 14·65	15·25	−0·60	109 21 49·98	45·08	+ 4·90
10 9 9 46·4	W	22 28 10·19	10·65	−0·46	103 23 46·58	44·09	+ 2·49
11 10 1 14·7	W	23 23 43·46	43·79	−0·33	96 28 26·62	23·44	+ 3·18
12 10 52 20·5	T	0 18 54·19	54·67	−0·48	89 1 44·34	37·74	+ 6·60
14 12 38 23·9	G	2 13 8·14	8·55	−0·41	74 36 13·40	6·75	+ 6·65
15 13 35 22·6	W	3 14 12·69	13·25	−0·56	68 42 61·58	53·89	+ 7·69
16 14 35 12·1	W	4 13 8·57	9·37	−0·80	64 22 62·26	55·45	+ 6·81
18 16 37 27·4	T	... ...	...	...	61 28 25·67	20·24	+ 5·43
20 18 28 52·8	G	8 28 13·96	15·03	−1·07	65 43 0·63	3·74	− 3·11
22 20 2 31·5	W	10 10 1·11	1·83	−0·72	... ...	...	...
Nov. 5 6 8 8·2	W	21 8 32·52	32·97	−0·45	111 16 29·93	28·66	+ 1·27

(concluded.)

Cape Mean Solar Time of Transit of Centre.	Observer.	Observed R.A.	Seconds of Tabular R.A.	Correction to the Tabular R.A.	Observed N.P.D.	Seconds of Tabular N.P.D.	Correction to the Tabular N.P.D.
1856. d h m s		h m s	s	s	° ′ ″	″	″
Nov. 6 6 59 36·9	W	22 4 6·20	6·86	−0·66	106 0 10·79	8·49	+ 2·80
9 9 28 36·1	T	0 45 19·59	19·82	−0·23	85 24 63·18	57·60	+ 5·58
10 10 20 30·3	G	1 41 18·82	18·73	+ 0·09	78 15 47·82	38·11	+ 9·71
11 11 15 38·9	G	... ...	...	...	71 46 49·51	38·08	+ 11·43
12 12 14 37·2	W	3 43 37·60	37·99	−0·39	66 31 44·71	39·89	+ 4·82
13 13 16 48·1	W	4 49 55·31	56·03	−0·72	63 0 58·74	54·18	+ 4·56
15 15 21 40·5	T	7 3 1·37	2·08	−0·71	62 7 17·14	15·21	+ 1·93
17 17 11 16·8	G	9 0 48·79	49·58	−0·79	68 10 16·82	21·08	− 4·26
18 17 58 31·5	T	9 52 7·73	8·64	−0·91	72 49 21·94	26·02	− 4·08
19 18 41 46·7	T	10 39 26·62	27·43	−0·81	78 5 0·51	6·93	− 6·42
20 19 22 16·6	T	11 23 59·70	60·16	−0·46	83 41 54·97	62·50	− 7·53
21 20 1 16·5	T	12 7 2·58	2·94	−0·36	89 28 15·96	23·77	− 7·81
Dec. 3 4 55 40·2	T	21 46 16·24	16·85	−0·61	107 37 44·84	44·91	− 0·07
7 8 8 46·0	T	... ...	...	...	81 17 44·37	38·52	+ 5·85
8 9 0 25·4	T	2 11 24·44	24·89	−0·45	74 41 48·11	40·41	+ 7·70
10 10 55 48·1	G	4 14 59·20	59·81	−0·61	64 37 15·68	11·99	+ 3·69
13 14 2 53·6	W	7 34 25·15	25·65	−0·50	63 15 40·99	41·29	− 0·30
14 14 58 58·9	G	8 34 36·18	36·76	−0·58	66 27 60·49	57·03	+ 3·46
15 15 49 42·8	W	9 29 24·99	25·53	−0·54	70 51 24·98	24·06	+ 0·92
20 19 16 6·6	T	13 16 5·43	5·71	−0·28	98 52 42·16	50·23	− 8·07

Cape Mean Solar Time of Transit of Centre.	Observer.	Observed R.A.	Seconds of Tabular R.A.	Correction to the Tabular R.A.	Observed N.P.D.	Seconds of Tabular N.P.D.	Correction to the Tabular N.P.D.
1856 d h m s		h m s	s	s	° ′ ″	″	″
Mar. 25 22 35 52·1	T	... ...	...	...	99 34 47·43	51·40	— 3·97
26 22 37 15·0	T	22 57 13·32	13·41	— 0·09	99 6 16·26	21·16	— 4·90
27 22 38 42·6	T	23 2 37·63	37·85	— 0·22	98 36 28·01	33·38	— 5·37
28 22 40 14·9	T	23 8 6·74	6·79	— 0·05	98 5 25·47	30·02	— 4·55
April 1 22 47 6·5	T	23 30 45·76	45·93	— 0·17	95 48 54·88	59·04	— 4·16
2 22 49 0·0	T	23 36 36·12	36·34	— 0·22	95 11 48·73	52·81	— 4·08
7 22 59 32·5	G	0 6 53·03	53·58	— 0·55	91 49 28·46	32·08	— 3·62
10 23 6 47·5	T	0 25 58·93	59·67	— 0·74	89 35 28 78	30·02	— 1·24
13 23 14 50·1	T	0 45 52·57	52·76	— 0·19	87 12 57·84	57·86	— 0·02
15 23 20 40·2	T	... ...	...	...	85 33 45·88	45·78	+ 0·10
16 23 23 44·4	T	1 6 37·93	38·22	— 0·29	84 43 5·54	4·18	+ 1·36
May 5 0 36 9·5	T	... ...	...	...	69 44 61·92	57·55	+ 4·37
7 0 45 0·2	T	3 46 58·19	58·65	— 0·46	68 30 56·26	51·41	+ 4·85
9 0 53 30·4	T	4 3 22·92	23·84	— 0·92	67 26 39·15	35·37	+ 3·78
12 1 5 19·3	T	4 27 3·39	3·70	— 0·31	66 9 28·01	24·72	+ 3·29
21 1 30 18·5	T	5 27 35·75	36·03	— 0·28	64 27 35·73	34·17	+ 1·56
Sept. 6 1 17 22·6	T	12 20 25·94	26·06	— 0·12	92 53 2·79	7·66	— 4·87
16 1 24 58·2	G	13 7 28·28	28·25	+ 0·03	99 18 32·84	37·93	— 5·09
21 1 25 23·3	T	13 27 36·23	36·11	+ 0·12	101 59 17·72	23·72	— 6·00
22 1 25 6·5	G	13 31 15·96	15·86	+ 0·10	102 28 1·32	6·86	— 5·54
24 1 24 6·5	W	13 38 8·90	8·53	+ 0·37	103 21 25·05	30·19	— 5·14
26 1 22 24·8	T	13 44 20·00	19·81	+ 0·19	104 8 44·54	48·97	— 4·43
27 1 21 16·1	T	13 47 7·69	7·45	+ 0·24	104 29 51·59	54·21	— 2·62
30 1 16 23·6	G	13 54 4·02	3·93	+ 0·09	105 21 8·01	11·90	— 3·89
Oct. 2 1 11 38·1	W	13 57 (10·85)	15·29	(— 4·44)	105 43 36·07	40·11	— 4·04
3 1 8 51·9	W	13 58 20·72	20·31	+ 0·41	105 50 43·85	46·51	— 2·66

March 26, 27, and May 12. The definition bad.

April 16. Very unsteady.

October 2. Cloudy; very faint, not seen until past the first wire. The counting probably 5ˢ in error.

Cape Mean Solar Time of Transit of Centre.	Observer.	Observed R.A.	Seconds of Tabular R.A.	Correction to the Tabular R.A.	Observed N.P.D.	Seconds of Tabular N.P.D.	Correction to the Tabular N.P.D.
1856 d h m s		h m s	s	s	° ′ ″	″	″
Feb. 7 21 27 20·5	T	18 37 52·68	52·10	+ 0·58	111 47 56·26	57·52	— 1·26
10 21 30 59·7	T	18 53 22·15	21·20	+ 0·95	111 41 18·10	19·69	— 1·59
25 21 48 47·6	T	20 10 21·30	20·74	+ 0·56	109 45 8·02	9·68	— 1·66
27 21 51 2·0	G	20 20 29·22	28·46	+ 0·76	109 19 32·29	34·53	— 2·24
28 21 52 8·0	G	20 25 31·87	31·27	+ 0·60	109 5 54·96	56·35	— 1·39
Mar. 4 21 57 26·5	T	20 50 34·10	33·50	+ 0·60	107 49 36·80	38·69	— 1·89
19 22 11 7·7	T	22 3 25·78	25·64	+ 0·14	102 49 18·29	19·58	— 1·29
23 22 14 12·6	T	22 22 17·45	17·27	+ 0·18	101 14 13·50	14·55	— 1·05
25 22 15 40·2	T	22 31 38·38	38·22	+ 0·16	100 24 45·96	47·00	— 1·04
26 22 16 22·8	T	22 36 17·65	17·53	+ 0·12	99 59 35·28	36·76	— 1·48
28 22 17 45·8	T	22 45 33·99	34·00	— 0·01	99 8 26·72	26·99	— 0·27
30 22 19 6·6	G	22 54 48·11	47·70	+ 0·41	98 16 14·13	15·77	— 1·64
April 1 22 20 24·1	T	23 3 58·93	58·83	+ 0·10	97 23 8·33	8·63	— 0·30
2 22 21 2·1	T	23 8 33·58	33·51	+ 0·07	96 56 15·33	15·95	— 0·62
7 22 24 4·5	G	23 31 19·23	19·05	+ 0·18	94 39 7·04	8·53	— 1·49
8 22 24 39·1	T	23 35 50·51	50·82	— 0·31	94 11 15·46	15·11	+ 0·35
10 22 25 48·2	T	23 44 52·95	53·24	— 0·29	93 15 5·86	6·25	— 0·39
13 22 27 29·9	T	23 58 24·55	24·69	— 0·14	91 50 8·13	7·19	+ 0·94
15 22 28 36·8	T	0 7 24·69	24·64	+ 0·05	90 53 5·08	5·36	— 0·28
16 22 29 9·8	T	0 11 54·35	54·43	— 0·08	90 24 30·11	29·69	+ 0·42
24 22 33 35·4	T	0 47 53·14	53·47	— 0·33	86 35 20·74	17·77	+ 2·97
27 22 35 18·3	T	1 1 25·95	26·05	— 0·10	85 9 53·85	53·15	+ 0·70
29 22 36 28·2	T	1 10 29·19	29·48	— 0·29	84 13 22·57	21·34	+ 1·23
30 22 37 4·1	G	1 15 1·73	1·80	— 0·07	83 45 15·44	14·97	+ 0·47
May 1 22 37 39·9	T	1 19 34·25	34·60	— 0·35	83 17 17·57	15·91	+ 1·66
4 22 39 31·6	T	1 33 15·91	16·10	— 0·19	81 54 10·89	9·53	+ 1·36
5 22 40 10·1	G	1 37 51·03	51·09	— 0·06	81 26 47·94	46·84	+ 1·10
8 22 42 8·7	T	1 51 39·61	39·97	— 0·36	80 5 49·02	46·69	+ 2·33
11 22 44 14·0	T	2 5 34·94	35·34	— 0·40	78 46 46·34	43·77	+ 2·57
15 22 47 12·9	T	2 24 20·53	20·71	— 0·18	77 4 57 43	55·55	+ 1·88
16 22 47 59·3	T	2 29 (3·64)	4·31	...	76 40 13·95	11·67	+ 2·28
20 22 51 17·2	T	2 48 8·31	8·55	— 0·24	75 4 31·94	29·98	+ 1·96
21 22 52 9·2	T	... ...	...	...	74 41 29·41	26·58	+ 2·83
27 22 57 43·4	T	3 22 11·52	11·85	— 0·33	72 31 20·21	18·27	+ 1·94
June 1 23 2 52·8	T	3 47 4·52	5·03	— 0·51	70 54 56·63	54·50	+ 2·13
3 23 5 4·3	T	3 57 9·53	10·18	— 0·65	70 19 48·19	46·52	+ 1·67
5 23 7 20·6	T	4 17 19·27	19·74	— 0·47	69 46 45·27	44·00	+ 1·27

May 16. Clock error uncertain.

(continued.)

Cape Mean Solar Time of Transit of Centre.	Observer.	Observed R.A.	Seconds of Tabular R.A.	Correction to the Tabular R.A.	Observed N.P.D.	Seconds of Tabular N.P.D.	Correction to the Tabular N.P.D.
1856 d h m s		h m s	s	s	° ′ ″	″	″
June 6 23 8 30·4	G	4 12 25·82	26·13	−0·31	69 31 1·49	1·48	+0·01
8 23 10 52·5	G	4 22 41·45	42·04	−0·59	69 1 18·01	16·83	+1·18
10 23 13 19·1	T	4 33 1·57	2·00	−0·43	68 33 52·49	50·26	+2·23
12 23 15 49·5	G	4 43 25·50	25·82	−0·32	68 8 46·92	46·06	+0·86
13 23 17 6·3	G	4 48 39·02	39·08	−0·06	67 57 10·21	8·69	+1·52
16 23 21 0·5	T	... ...	...	...	67 25 2·91	1·80	+1·11
22 23 29 9·1	T	5 36 12·89	13·29	−0·40	66 41 20·64	19·69	+0·95
25 23 33 20·5	T	5 52(14·66)	15·25	...	66 28 4·45	4·10	+0·35
27 23 36 10·3	T	6 2 58·01	58·34	−0·33	... ...	...	...
29 23 39 0·7	G	6 13 42·00	42·31	−0·31	66 20 3·63	4·78	−1·15
30 23 40 26·0	T	6 19 4·12	4·48	−0·36	66 19 50·48	49·99	+0·49
July 4 23 46 7·5	G	6 40 32·79	32·98	−0·19	66 25 51·31	51·84	−0·53
Sept. 6 0 48 24·7	T	... ...	...	...	87 40 49·36	48·76	+0·60
8 0 49 33·4	W	12 0 25·21	24·79	+0·42	88 42 9·21	8·18	+1·03
10 0 50 41·3	W	12 9 26·47	26·11	+0·36	89 43 41·30	40·44	+0·86
11 0 51 15·3	W	12 13 57·10	56·65	+0·45	90 14 30·53	29·41	+1·12
12 0 51 49·1	T	... ...	...	...	90 45 21·37	19·61	+1·76
20 0 56 24·6	T	12 54 36·21	35·94	+0·27	94 51 13·89	12·12	+1·77
21 0 57 0·4	T	12 59 8·63	8·29	+0·34	95 21 41·17	39·36	+1·81
24 0 58 50·1	W	13 12 48·30	48·06	+0·24	96 52 23·27	20·97	+2·30
25 0 59 28·0	W	13 17 22·91	22·35	+0·56	97 22 21·65	19·16	+2·49
27 1 0 44·8	T	13 26 33·02	32·77	+0·25	98 21 49·85	46·94	+2·91
Oct. 3 1 4 53·5	W	13 54 21·70	21·20	+0·50	101 15 30·15	28·10	+2·05
4 1 5 37·7	T	13 59 2·53	2·14	+0·39	101 43 37·09	35·56	+1·53
7 1 7 56·0	G	... ...	...	...	103 6 18·38	17·15	+1·23
8 1 8 44·1	G	... ...	...	...	103 33 15·83	14·83	+1·00
9 1 9 33·0	T	14 22 41·26	41·04	+0·22	103 59 56·77	53·24	+3·53
10 1 10 23·2	W	14 27 28·22	27·86	+0·36	104 26 12·94	11·32	+1·62
11 1 11 14·8	W	14 32 16·47	15·76	+0·71	104 52 10·98	8·53	+2·45

May 8. Very bad image.
June 25. Clock error uncertain.
Sept. 25. Thick haze; Venus very faint.
Oct. 9. Note in Journal, "this observation is not worth recording."

Cape Mean Solar Time of Transit of Centre.	Observer.	Observed R.A.	Seconds of Tabular R.A.	Correction to the Tabular R.A.	Observed N.P.D.	Seconds of Tabular N.P.D.	Correction to the Tabular N.P.D.
1856 d h m s		h m s	s	s	° ′ ″	″	″
Feb. 14 15 45 24·5	W	... ...	...	...	95 34 37·26	35·83	+ 1·43
15 15 41 51·9	W	... ...	...	...	95 36 8·83	7·17	+ 1·66
19 15 27 16·5	W	... ...	...	...	95 39 54·75	53·33	+ 1·42
21 15 19 43·5	W	... ...	...	...	95 40 23·36	21·20	+ 2·16
22 15 15 53·1	W	... ...	...	...	95 40 14·67	13·34	+ 1·33
25 15 4 5·3	W	... ...	...	...	95 38 22·09	20·76	+ 1·33
26 15 0 3·8	W	... ...	...	...	95 37 15·10	13·32	+ 1·78
27 14 55 59·4	W	... ...	...	...	95 35 51·78	50·46	+ 1·32
28 14 51 52·1	W	... ...	...	...	95 34 13·44	12·30	+ 1·14
29 14 47 42·0	W	... ...	...	...	95 32 20·12	18·96	+ 1·16
Mar. 1 14 43 28·9	W	... ...	...	...	95 30 11·31	10·20	+ 1·11
6 14 21 39·5	W	... ...	...	...	95 15 37·84	37·45	+ 0·39
11 13 58 37·2	W	... ...	...	...	94 54 55·35	54·72	+ 0·63
12 13 53 52·2	W	... ...	...	...	94 50 4·80	4·36	+ 0·44
15 13 39 21·2	W	... ...	...	...	94 34 16·30	15·63	+ 0·67
16 13 34 25·7	W	... ...	...	...	94 28 35·17	35·15	+ 0·02
17 13 29 27·7	W	... ...	...	...	94 22 43·21	43·14	+ 0·07
18 13 24 27·3	W	... ...	...	...	94 16 40·34	40·36	— 0·02
20 13 14 19·7	W	... ...	...	...	94 4 4·32	4·15	+ 0·17
24 12 53 39·6	W	... ...	...	...	93 37 6·18	5·55	+ 0·63
27 12 37 51·4	W	... ...	...	...	93 15 39·78	40·92	— 1·14
28 12 32 32·5	W	... ...	...	...	93 8 22·56	23·14	— 0·58
29 12 27 12·5	W	... ...	...	...	93 1 0·89	2·27	— 1·38
April 1 12 11 7·2	W	... ...	...	...	92 38 48·50	49·79	— 1·29
3 12 0 20·9	W	... ...	...	...	92 24 1·42	2·97	— 1·55
12 11 12 4·0	W	... ...	...	...	91 21 35·12	38·06	— 2·94
14 11 1 30·6	W	... ...	...	...	91 9 21·66	25·12	— 3·46
15 10 56 16·2	W	... ...	...	...	91 3 32·60	37·01	— 4·41
16 10 51 3·6	W	... ...	...	...	90 57 57·71	62·07	— 4·36
17 10 45 52·7	W	... ...	...	...	90 52 35·26	40·85	— 5·59
19 10 35 37·0	W	... ...	...	...	90 42 36·80	41·56	— 4·76
21 10 25 29·9	W	... ...	...	...	90 33 38·40	43·26	— 4·86
22 10 20 29·7	W	... ...	...	...	90 29 33·20	38·00	— 4·80
24 10 10 36·7	W	... ...	...	...	90 22 12·10	17·07	— 4·97
26 10 0 53·9	W	... ...	...	...	90 15 58·26	64·35	— 6·09
28 9 51 21·8	W	... ...	...	...	90 10 55·91	61·60	— 5.69
29 9 46 39·9	W	... ...	...	...	90 8 51·02	57·14	— 6·12
30 9 42 0·8	W	... ...	...	...	90 7 2·65	10·55	— 7·90
May 1 9 37 24·6	W	... ...	...	...	90 5 34·10	42·39	— 8·29

Cape Mean Solar Time of Transit of Centre.	Observer.	Observed R.A.	Seconds of Tabular R.A.	Correction to the Tabular R.A.	Observed N.P.D.	Seconds of Tabular N.P.D.	Correction to the Tabular N.P.D.
1856 d h m s		h m s	s	s	° ′ ″	″	″
April 13 21 11 38·4	T	23 42 30·49	30·58	— 0·09	93 2 34·73	35·14	— 0·41
Sept. 22 12 11 58·8	G	0 19 54·53	54·60	— 0·07	89 37 33·16	32·84	+ 0·32
23 12 7 34·0	G	0 19 25·48	25·32	+ 0·16	89 40 46·52	45·04	+ 1·48
25 11 58 43·6	W	0 18 26·75	26·52	+ 0·23	89 47 9·46	9·34	+ 0·12
26 11 54 18·3	T	0 17 57·30	57·07	+ 0·23	89 50 21·56	21·34	+ 0·22
27 11 49 52·8	T	0 17 27·69	27·60	+ 0·09	89 53 32·97	32·84	+ 0·13
Oct. 1 11 32 12·2	W	0 15 30·30	30·04	+ 0·26	90 6 13·34	12·29	+ 1·05
2 11 27 47·1	W	0 15 1·03	0·85	+ 0·18	90 9 19·70	19·59	+ 0·11
3 11 23 22·0	W	0 14 31·82	31·79	+ 0·03	90 12 26·13	25·71	+ 0·42
4 11 18 57·4	T	0 14 3·06	2·87	+ 0·19	90 15 30·58	30·21	+ 0·37
6 11 10 8·6	G	0 13 5·85	5·57	+ 0·28	90 21 35·82	34·66	+ 1·16
9 10 56 56·8	T	... ...	...	...	90 30 27·32	26·83	+ 0·49
10 10 52 33·3	W	0 11 13·96	13·73	+ 0·23	90 33 19·76	19·63	+ 0·13
11 10 48 10·1	W	0 10 46·55	46·47	+ 0·08	90 36 10·30	10·25	+ 0·05

Right Ascensions and N.P.D. of Eunomia.

Cape Mean Solar Time of Transit of Centre.	Observer.	Observed R.A.	Seconds of Tabular R.A.	Correction to the Tabular R.A.	Observed N.P.D.	Seconds of Tabular N.P.D.	Correction to the Tabular N.P.D.
1856 d h m s		h m s	s	s	° ′ ″	″	″
Sept. 23 12 50 7·5	G	1 2 6·04	...	...	61 8 2·34	...	...
24 12 45 24·5	W	1 1 18·82	...	...	61 6 38·41	...	...
25 12 40 40·6	W	1 0 30·63	...	...	61 5 34·14	...	...
26 12 35 4·2	T	0 58 49·93	...	...	61 4 12·14	...	...
27 12 31 9·1	T	0 58 50·72	...	...	61 4 28·52	...	...
Oct. 1 12 11 57·0	W	0 55 21·64	...	...	61 6 35·70	...	...
2 12 7 7·2	W	0 54 27·63	...	...	61 7 57·80	...	...
4 11 57 26·4	T	0 52 38·39	...	...	61 11 44·57	...	...
6 11 47 44·6	G	0 50 48·09	...	...	61 16 56·44	...	...
9 11 33 11·4	T	0 48 2·13	...	...	61 28 8·50	...	...
10 11 28 20·7	W	0 47 7·19	...	...	61 31 10·21	...	...

Sept. 26. A similar object transited about 30ˢ after the above.
Sept. 27. Two similar objects, observed the true southernmost.

ROYAL OBSERVATORY,

CAPE OF GOOD HOPE.

OBSERVATIONS

OF THE

RIGHT ASCENSION OF THE MOON'S LIMB

AND OF

MOON-CULMINATING STARS,

AND OF

OCCULTATIONS OF STARS,

OBSERVED IN THE YEAR 1856.

Day, 1856.	Object.	Observer.	Observed R.A. of Star and Moon's Limb on the true Meridian.	Limb observed.	No. of Wires.
			h m s		
Jan. 1	α Virginis ...	T	13 17 35·87		7
	Moon	T	13 54 7·56	2	7
2	α Virginis ...	T	13 17 35·90		7
	Moon	T	14 42 38·04	2	7
3	Moon	T	15 35 25·37	2	7
	α Scorpii	T	16 20 33·20		7
4	α Scorpii	T	16 20 33·22		7
	Moon	T	16 33 19·34	2	7
15	Moon	T	2 22 13·42	1	7
	δ Arietis	T	3 3 24·17		7
17	Moon	T	4 13 23·23	1	7
	ι Tauri	T	4 54 30·20		7
18	ι Tauri	G	4 54 30·13		7
	l Tauri	G	4 59 17·96		7
	Moon	G	5 12 13·82	1	7
	136 Tauri	G	5 44 17·64		7
	κ Aurigæ	G	6 6 13·20		7
19	κ Aurigæ	T	6 6 13·22		7
	Moon	T	6 12 2·28	1	7
	ϵ Geminorum	T	6 35 5·32		7
	ζ Geminorum	T	6 55 35·11		7
20	ϵ Geminorum	T	6 35 5·33		7
	ζ Geminorum	T	6 55 35·12		7
	Moon	T	7 11 8·77	1	5
24	Moon	W	10 40 10·86	2	5
	χ Leonis	W	10 57 36·03		6
25	χ Leonis	W	10 57 36·12		7
	σ Leonis	W	11 13 43·33		7
	Moon	W	11 24 38·19	2	7
	ν Virginis ...	W	11 38 28·11		7
	β Virginis ...	W	11 43 12·28		
26	β Virginis ...	G	11 43 12·35		7
	Moon	G	12 7 49·03	2	7
	γ Virginis ...	G	12 34 22·26		7
	38 Virginis ..	G	12 45 49·28		7
Jan. 29	λ Virginis ...	G	14 11 19·25		7
	Moon	G	14 21 1·65	2	7
	α^2 Libræ	G	14 42 54·66		7
30	α^2 Libræ	G	14 42 54·78		7
	20 Libræ	G	14 55 38·59		7
	Moon	G	15 10 41·70	2	7
	π Scorpii	G	15 50 8·09		7
	β^1 Scorpii	G	15 57 3·41		7
31	π Scorpii	G	15 50 8·16		7
	β^1 Scorpii	G	15 57 3·40		7
	Moon	G	16 4 53·52	2	7
	α Scorpii	G	16 20 34·13		7
	τ Scorpii	G	16 26 54·46		7
Feb. 1	α Scorpii	G	16 20 34·08		7
	τ Scorpii	G	16 26 54·53		7
	Moon	G	17 4 11·26	2	7
13	η Tauri	T	3 38 55·48		7
	Moon	T	3 55 42·21	1	7
	ϵ Tauri	T	4 20 13·19		7
14	ϵ Tauri	T	4 20 12·84		7
	Moon	T	4 54 11·40	1	5
	β Tauri	T	5 17 12·13		7
16	μ Geminorum	G	6 14 15·79		7
	ϵ Geminorum	G	6 35 5·15		7
	Moon	G	6 52 35·82	1	7
	δ Geminorum	G	7 11 32·40		7
	ϵ Geminorum	G	7 16 47·94		7
17	δ Geminorum	G	7 11 32·44		7
	ϵ Geminorum	G	7 16 47·92		7
	Moon	G	7 49 37·59	1	7
	ψ^3 Cancri	G	8 1 47·80		7
	γ Cancri	G	8 34 58·27		7
18	ψ^3 Cancri	G	8 1 47·78		7
	γ Cancri	G	8 34 58·31		7
	Moon	G	8 43 39·50	1	7
	ξ Cancri	G	9 1 5·91		7
	λ Leonis	G	9 23 31·55		7

Day, 1856.	Object.	Observer.	Observed R.A. of Star and Moon's Limb on the true Meridian. h m s	Limb observed.	No. of Wires.
Feb. 19	ξ Cancri.....	G	9 1 5·91		7
	λ Leonis.....	G	9 23 31·39		7
	Moon	G	9 34 19·34	1	7
	α Leonis.....	G	10 0 43·32		7
	γ Leonis.....	G	10 12 3·29		7
22	ν Virginis....	W	11 38 28·61		7
	β Virginis....	W	11 43 12·84		7
	Moon	W	11 52 29·46	2	7
	10 Virginis...	W	12 2 19·83		7
	η Virginis....	W	12 12 33·55		7
25	86 Virginis...	T	13 38 16·86		4
	Moon	T	14 3 41·21	2	7
	δ Libræ.....	T	14 38 2·29		7
	α^2 Libræ.....	T	14 42 55·60		7
26	δ Libræ.....	T	14 38 2·33		7
	α^2 Libræ.....	T	14 42 55·48		7
	Moon	T	14 51 16·80	2	5
	ζ^1 Libræ.....	T	15 20 8·92		7
	η Libræ.....	T	15 35 59·06		7
27	η Libræ.....	T	15 35 58·97		7
	Moon	T	15 42 33·72	2	7
	α Scorpii... ..	T	16 20 35·06		7
	τ Scorpii.....	T	16 26 55·43		7
28	α Scorpii.....	T	16 20 35·07		7
	τ Scorpii.....	T	16 26 55·45		7
	Moon	T	16 38 16·42	2	7
	θ Ophiuchi....	T	17 13 9·95		7
29	θ Ophiuchi....	T	17 13 10·02		7
	Moon	T	17 38 28·62	2	7
	δ Sagittarii...	T	18 11 45·96		7
Mar. 14	Moon.....	T	6 34 3·27	1	7
	δ Geminorum	G	7 11 31·98		7
	ε Geminorum	G	7 16 47·66		7
15	δ Geminorum	G	7 11 32·02		7
	ε Geminorum	G	7 16 47·76		7
	Moon	G	7 32 8·88	1	7
	φ Geminorum	G	7 44 41·89		7
	ψ^2 Cancri.....	G	8 1 47·59		5
Mar. 16	φ Geminorum	T	7 44 41·95		7
	ψ^2 Cancri.....	T	8 1 47·61		7
	Moon	T	8 27 7·51	1	7
	δ Cancri.....	T	8 36 31·00		7
18	ε Leonis.....	T	9 37 41·75		7
	η Leonis.....	T	9 59 30·16		7
	Moon	T	10 6 47·32	1	7
	44 Leonis.....	T	10 17 41·09		7
	ρ Leonis.....	T	10 25 15·08		7
19	44 Leonis.....	T	10 17 41·16		7
	ρ Leonis.....	T	10 25 15·07		7
	Moon	T	10 52 21·31	1	7
	π Leonis.....	T	11 8 21·33		7
	ε Leonis.....	T	11 16 26·55		7
20	π Leonis.....	T	11 8 21·17		4
	ε Leonis.....	T	11 16 26·32		7
	Moon	T	11 36 9·00	1	7
	δ Virginis.....	T	11 52 35·72		7
	η Virginis....	T	12 12 33·84		7
24	λ Virginis....	T	14 11 20·74		7
	Moon	T	14 35 24·09	2	7
27	A Ophiuchi...	T	17 6 30·80		7
	Moon	T	17 16 30·01	2	7
	γ^1 Sagittarii..	T	17 55 50·03		7
	δ Sagittarii...	T	18 11 47·12		7
29	σ Sagittarii...	T	18 46 20·39		7
	ζ Sagittarii...	T	18 53 27·25		7
	Moon	T	19 20 24·97	2	7
	c Sagittarii...	T	19 53 47·91		7
60	c Sagittarii....	T	19 53 47·91		5
	Moon	T	20 23 16·68	2	7
Apr. 11	ζ Geminorum	T	6 55 34·44		7
	Moon	T	7 11 11·18	1	7
	α^2Geminorum	T	7 25 24·91		7
	β Geminorum	T	7 36 30·31		7

Day, 1856.	Object.	Observer.	Observed R.A. of Star and Moon's Limb on the true Meridian.	Limb observed.	No. of Wires.
			h m s		
Apr. 13	θ Cancri.....	T	8 23 23·70		7
	γ Cancri.....	T	8 34 57·79		7
	Moon	T	9 1 34·38	1	7
	λ Leonis.....	T	9 23 31·17		7
	ε Leonis.....	T	9 37 41·49		7
14	λ Leonis.....	G	9 23 31·10		7
	Moon	G	9 51 0·18	1	7
	α Leonis.....	G	10 0 43·15		7
	ρ Leonis.....	G	10 25 14·87		7
15	α Leonis.....	G	10 0 43·11		7
	ρ Leonis.....	G	10 25 14·97		7
	Moon	G	10 37 20·59	1	7
	χ Leonis.	G	10 57 36·66		7
	σ Leonis.. ...	G	11 13 43·98		7
16	Moon	T	11 21 33·09	1	7
	ν Virginis...	T	11 38 29·11		7
17	ν Virginis...	T	11 38 28·94		7
	β Virginis...	T	11 43 13·18		7
	Moon	T	12 4 38·60	1	7
	η Virginis ...	T	12 12 33·85		7
19	θ Virginis...	T	13 2 31·43		7
	α Virginis...	T	13 17 38·32		7
	Moon	T	13 31 43·00	1	7
	ε Virginis ...	T	14 5 14·77		7
	λ Virginis...	T	14 11 21·15		7
20	ε Virginis ...	T	14 5 14·92		7
	λ Virginis...	T	14 11 21·08		7
	Moon	T	14 19 53·95	2	7
	α^2 Libræ.....	T	14 42 56·70		7
21	α^2 Libræ	T	14 42 56·79		7
	20 Libræ.....	T	14 55 40·72		7
	Moon	T	15 8 58·81	2	7
	ρ Scorpii.....	T	15 48 1·81		7
22	ρ Scorpii.....	T	15 48 1·97		7
	δ Scorpii.....	T	15 51 51·16		7
	Moon	T	16 1 44·39	2	7
	α Scorpii.....	T	16 20 36·75		7

Doy, 1856.	Object.	Observer.	Observed R.A. of Star and Moon's Limb on the true Meridian.	Limb observed.	No. of Wires.
			h m s		
Apr. 24	θ Ophiuchi..	G	17 13 11·68		7
	d Ophiuchi...	G	17 18 11·41		5
	Moon	G	17 58 17·35	2	7
	φ Sagittarii .	G	18 36 40·83		7
	σ Sagittarii..	G	18 46 21·43		7
25	φ Sagittarii..	G	18 36 40·94		7
	σ Sagittarii..	G	18 46 21·31		7
	Moon	G	19 0 5·13	2	7
	λ^2 Sagittarii.	G	19 27 57·40		7
	c Sagittarii...	G	19 53 48·77		7
26	λ^2 Sagittarii.	T	19 27 57·44		7
	c Sagittarii...	T	19 53 48·88		7
	Moon	T	20 1 53·15	2	7
	ψ Capricorni	T	20 37 34·50		7
	ω Capricorni	T	20 43 13·86		7
27	ψ Capricorni	T	20 37 34·71		7
	Moon	T	21 2 5·56	2	7
	γ Capricorni	T	21 32 6·90		7
	δ Capricorni.	T	21 39 5·57		7
May 10	Moon	T	8 40 49·27	1	7
	ξ Cancri.....	T	9 1 5·10		7
	λ Leonis.....	T	9 23 30·71		7
11	λ Leonis.....	T	9 23 30·67		7
	Moon	T	9 32 28·05	1	7
	η Leonis.....	T	9 59 29·52		7
	γ Leonis.....	T	10 12 2·76		7
12	η Leonis.....	G	9 59 29·75		7
	γ Leonis.....	G	10 12 2·69		7
	Moon	G	10 20 20·29	1	7
	χ Leonis.....	G	10 57 36·39		7
13	c Leonis.....	W	10 53 18·01		7
	χ Leonis.....	W	10 57 36·29		7
	Moon	W	11 5 25·25	1	7
	τ Leonis.....	W	11 20 33·01		7
	β Virginis...	W	11 43 13·01		7

Day, 1856.	Object.	Observer.	Observed R.A. of Star and Moon's Limb on the true Meridian.	Limb observed.	No. of Wires.
			h m s		
May 14	τ Leonis.....	G	11 20 33·16		7
	β Virginis...	G	11 43 12·97		7
	Moon	G	11 48 50·93	1	7
	10 Virginis..	G	12 2 20·03		7
	η Virginis...	G	12 12 33·90		7
16	ψ Virginis...	G	12 46 53·70		7
	θ Virginis...	G	13 2 31·34		7
	Moon	G	13 15 20·82	1	7
	ζ Virginis...	G	13 27 23·08		7
	m Virginis...	G	13 34 5·25		7
20	σ Scorpii.....	W	16 12 28·65		7
	α Scorpii.....	W	16 20 37·21		7
	Moon	W	16 39 4·98	2	7
	θ Ophiuchi...	W	17 13 12·32		7
21	A Ophiuchi..	G	17 6 32·22		7
	θ Ophiuchi...	G	17 13 12·42		7
	Moon	G	17 38 51·13	2	7
	δ Sagittarii...	G	18 11 48·75		7
	λ Sagittarii...	G	18 19 7·29		7
22	δ Sagittarii..	W	18 11 48·74		7
	λ Sagittarii..	W	18 19 7·25		5
	Moon	W	18 40 56·46	2	7
	ζ Sagittarii..	W	18 53 29·05		7
	τ Sagittarii..	W	18 57 59·01		7
23	ζ Sagittarii..	G	18 53 29·22		7
	τ Sagittarii..	G	18 57 59·18		7
	Moon	G	19 43 18·03	2	7
	υ Capricorni	G	20 31 52·41		7
	ψ Capricorni	G	20 37 35·43		7
June 9	ρ Leonis.....	T	10 25 14·28		7
	Moon	T	10 47 16·95	1	7
	ι Leonis.....	T	11 16 25·88		7
10	ι Leonis.....	T	11 16 25·82		7
	Moon	T	11 31 29·15	1	7
	β Virginis ..	T	11 43 12·69		4
	π Virginis...	T	11 53 30·82		7
June 11	β Virginis...	T	11 43 12·74		5
	π Virginis...	T	11 53 30·82		7
	Moon	T	12 14 32·04	1	7
	γ Virginis...	T	12 34 23·20		7
	δ Virginis....	T	12 48 22·47		7
14	$\varkappa$ Virginis...	W	14 5 14·81		7
	λ Virginis...	W	14 11 21·26		7
	Moon	W	14 28 54·76	1	7
	α^2 Libræ.....	W	14 42 57·17		7
15	α^2 Libræ.....	G	14 42 57·09		7
	ν^1 Libræ.....	G	14 53 37·91		7
	Moon	G	15 19 19·20	1	7
	β^1 Scorpii....	G	15 57 6·51		7
16	π Scorpii.....	G	15 50 11·37		7
	β^1 Scorpii....	G	15 57 6·60		7
	Moon.....	G	16 14 1·35	1	7
	α Scorpii.....	G	16 20 37·63		7
	B.A C. 5579.	G	16 33 17·57		7
	A Ophiuchi..	G	17 6 32·62		7
27	Moon	T	2 46 11·18	2	7
	α Tauri.....	T	4 27 39·74		7
July 11	89 Virginis...	T	13 42 4·66		7
	B.A.C. 4700.	T	14 3 0·53		7
	Moon	T	14 8 32·67	1	7
	5 Libræ.....	T	14 37 3·52		7
	α^2 Libræ.....	T	14 42 56·93		7
12	5 Libræ.....	W	14 38 3·56		7
	α^2 Libræ.....	W	14 42 56·91		7
	Moon	W	14 56 56·17	1	7
	η Libræ.....	W	15 36 0·85		7
	λ Libræ.....	W	15 45 1·04		7
	β^1 Scorpii....	W	15 57 6·50		7
14	α Scorpii	G	16 20 37·53		7
	τ Scorpii	G	16 26 58·18		7
	Moon	G	16 46 23·32	1	7
	θ Ophiuchi...	G	17 13 12·92		7
	d Ophiuchi...	G	17 18 12·86		7

Day, 1856.	Object.	Observer.	Observed R.A. of Star and Moon's Limb on the true Meridian.	Limb observed.	No. of Wires.
			h m s		
July 18	ψ Capricorni	G	20 37 37·05		7
	ω Capricorni	G	20 43 16·62		7
	Moon	G	21 0 48·99	2	7
	γ Capricorni	G	21 32 9·82		7
	δ Capricorni.	G	21 39 8·02		7
23	Moon	T	1 34 37·34	2	7
	α Arietis.....	T	1 59 5·19		7
27	Moon	T	5 27 19·39	2	7
Aug. 10	π Scorpii.....	T	15 50 10·88		7
	β^1 Scorpii....	T	15 57 6·13		7
	Moon	T	16 20 12·54	1	7
	A Ophiuchi.	T	17 6 32·32		7
	θ Ophiuchi...	T	17 13 12·87		7
11	A Ophiuchi.	G	17 6 32·47		7
	θ Ophiuchi...	G	17 13 12·92		7
	Moon	G	17 18 45·87	1	7
	μ^1 Sagittarii.	G	18 5 11·90		7
	δ Sagittarii..	G	18 11 49·64		7
14	Moon	W	20 28 51·31	1	7
	ι Capricorni.	W	21 14 16·84		7
15	ι Capricorni.	T	21 14 16·67		7
	Moon	T	21 30 22·66	1	7
	ι Aquarii.....	T	21 58 42·49		7
16	δ Capricorni	T	21 39 8·68		7
	ι Aquarii.....	T	21 58 42·60		7
	Moon	T	22 31 18·48	2	7
	λ Aquarii....	T	22 45 9·03		7
	ψ^3 Aquarii...	T	23 11 31·10		7
17	λ Aquarii....	T	22 45 8·99		7
	ψ^3 Aquarii...	T	23 11 31·09		7
	Moon	T	23 27 13·90	2	7
	30 Piscium...	T	23 54 37·32		7
18	33 Piscium..	G	23 58 0·64		7
	Moon	G	0 21 34·15	2	7
	ε Piscium....	G	0 55 30·84		7
	e Piscium....	G	1 0 59·71		7
Aug. 22	A^1 Tauri.....	T	3 56 13·31		7
	Moon	T	4 7 6·51	2	7
23	Moon	T	5 8 32·26	2	7
Sept. 6	δ Scorpii.....	T	15 51 51·03		7
	Moon	T	15 57 57·93	1	7
	α Scorpii.....	T	16 20 36·93		7
	τ Scorpii.....	T	16 26 57·30		7
7	α Scorpii	T	16 20 36·98		7
	Moon	T	16 53 32·79	1	7
	A Ophiuchi.	T	17 6 32·02		7
	θ Ophiuchi...	T	17 13 12·39		7
8	A Ophiuchi..	G	17 6 31·88		7
	θ Ophiuchi...	G	17 13 12·27		7
	Moon	G	17 52 53·07	1	7
	φ Sagittarii..	G	18 36 42·28		7
	σ Sagittarii..	G	18 46 23·05		7
10	λ^2 Sagittarii.	W	19 27 59·58		7
	δ Sagittarii..	W	19 48 9·57		7
	Moon	W	19 57 35·83	1	7
	ψ Capricorni	W	20 37 37·16		7
	ω Capricorni	W	20 43 16·80		7
11	ψ Capricorni	W	20 37 37·20		7
	ω Capricorni	W	20 43 16·68		7
	Moon	W	20 59 21·93	1	7
	γ Capricorni	W	21 32 9·82		7
	δ Capricorni	W	21 39 8·62		7
13	σ Aquarii....	T	22 23 4·73		7
	δ Aquarii....	T	22 47 3·69		7
	Moon	T	22 56 29·18	1	7
	λ Piscium ...	T	23 34 45·12		7
	20 Piscium...	T	23 40 35·59		7
15	δ Piscium....	G	0 41 16·01		7
	Moon	G	0 59 6·79	1	7
	μ Piscium ...	G	1 22 41·58		7
	π Piscium ...	G	1 29 31·13		7

Day, 1856.	Object.	Observer.	Observed R.A. of Star and Moon's Limb on the true Meridian.	Limb observed.	No. of Wires.
			h m s		
Sept. 16	μ Piscium....	G	1 22 41·63		7
	π Piscium....	G	1 29 31·22		7
	Moon.....	G	1 46 21·73	2	7
	ξ Arietis.....	G	2 17 9·16		7
	B.A.C. 845....	G	2 37 12·60		7
18	η Tauri.....	W	3 38 58·71		7
	Moon.....	W	3 45 0·81	2	7
	δ^2 Tauri.....	W	4 15 50·38		7
19	Moon.....	T	4 47 35·89	2	7
	β Tauri.....	T	5 17 14·16		7
20	β Tauri.....	T	5 17 14·02		7
	Moon.....	T	5 50 54·67	2	7
	μ Geminorum	T	6 14 17·08		7
21	μ Geminorum	T	6 14 16·98		7
	ϵ Geminorum	T	6 35 6·25		7
	Moon.....	T	6 53 1·50	2	7
	α^2Geminorum	T	7 25 26·41		7
	β Geminorum	T	7 36 31·85		5
Oct. 4	α Scorpii.....	T	16 20 36·57		7
	τ Scorpii.....	T	16 26 56·83		7
	Moon.....	T	16 33 33·02	1	7
	θ Ophiuchi...	T	17 13 11·96		7
	d Ophiuchi...	T	17 18 11·51		7
9	ι Capricorni..	T	21 14 16·44		7
	ζ Capricorni..	T	21 18 29·46		7
	Moon.....	T	21 30 3·52	1	7
	μ Capricorni.	T	21 45 29·52		7
	ι Aquarii.....	T	21 58 42·50		7
10	μ Capricorni.	W	21 45 29·59		7
	ι Aquarii.....	W	21 58 42·52		7
	Moon.....	W	22 27 0·22	1	7
	λ Aquarii.....	W	22 45 9·15		7
	ψ^3 Aquarii....	W	23 10 28·33		7
11	λ Aquarii.....	W	22 45 9·17		7
	ψ^3 Aquarii....	W	23 10 28·24		7
	Moon.....	W	23 22 34·17	1	7
	30 Piscium....	W	23 54 37·72		7
	33 Piscium....	W	23 58 1·19		7
Oct. 12	30 Piscium..	T	23 54 37·73		7
	33 Piscium...	T	23 58 1·18		7
	Moon.....	T	0 17 44·78	1	7
14	o Piscium....	G	1 37 51·07		7
	ξ^1 Ceti.....	G	2 5 25·66		7
	Moon.....	G	2 14 20·19	2	7
	ϵ Arietis.....	G	2 51 2·42		7
	δ Arietis.....	G	3 3 27·57		7
15	ϵ Arietis.....	W	2 51 2·68		7
	δ Arietis.....	W	3 3 27·72		7
	Moon.....	W	3 15 26·71	2	7
	17 Tauri.....	W	3 36 23·30		7
	η Tauri.....	W	3 38 59·19		7
16	17 Tauri.....	W	3 36 23·39		7
	η Tauri.....	W	3 38 59·39		7
	Moon.....	W	4 19 24·14	2	7
	β Tauri.....	W	5 17 14·92		7
20	Moon.....	G	8 29 23·51	2	5
22	α Leonis.....	W	10 0 43·67		7
	Moon.....	W	10 11 5·05	2	7
Nov. 5	Moon.....	W	21 7 22·16	1	7
	γ Capricorni	W	21 32 9·17		7
	δ Capricorni	W	21 39 7·96		7
6	γ Capricorni	W	21 32 9·21		7
	δ Capricorni	W	21 39 8·01		7
	Moon.....	W	22 2 57·11	1	7
	τ^2 Aquarii....	W	22 42 0·91		5
	δ Aquarii....	W	22 47 3·29		7
9	Moon.....	T	0 44 10·60	1	7
	ϵ Piscium....	T	0 55 31·69		6
10	ϵ Piscium....	G	1 1 0·64		7
	Moon.....	G	1 40 8·13	1	7
	α Arietis.....	G	1 59 7·60		7
	θ Arietis.....	G	2 10 11·21		7

Day, 1856.	Object.	Observer.	Observed R.A. of Star and Moon's Limb on the true Meridian.	Limb observed.	No. of Wires.
			h m s		
Nov. 12	17 Tauri.....	W	3 36 23·97		7
	η Tauri.....	W	3 38 59·87		7
	Moon.....	W	3 44 52·91	2	7
	ϵ Tauri.....	W	4 20 16·73		5
13	κ^1 Tauri	W	4 16 51·60		7
	ϵ Tauri.....	W	4 20 16·84		7
	Moon	W	4 51 12·10	2	7
	β Tauri	W	5 17 15·69		7
	ζ Tauri.....	W	5 29 6·47		7
15	μ Geminorum	T	6 14 18·84		7
	ϵ Geminorum	T	6 35 8·25		7
	Moon	T	7 4 16·21	2	7
	β Geminorum	T	7 36 33·70		7
17	γ Cancri.....	G	8 35 0·07		7
	Moon	G	9 1 57·27	2	7
	λ Leonis	G	9 23 32·86		7
18	ϵ Leonis.....	T	9 36 43·23		7
	Moon	T	9 53 13·16	2	6
19	γ Leonis.....	T	10 12 4·42		7
	Moon	T	10 40 29·66	2	6
20	Moon	T	11 25 1·17	2	6
21	Moon	T	12 8 3·36	2	6

Day, 1856.	Object.	Observer.	Observed R.A. of Star and Moon's Limb on the true Meridian.	Limb observed.	No. of Wires.
			h m s		
Dec. 3	Moon	T	21 45 7·58	1	7
8	Moon	T	2 10 13·64	1	7
	ϵ Arietis.....	T	2 51 3·04		7
	δ Arietis.....	T	3 3 28·09		7
10	17 Tauri.....	G	3 36 24·16		7
	η Tauri.....	G	3 39 0·10		7
	Moon	G	4 13 43·45	1	7
	ϵ Tauri.....	G	4 54 34·00		7
	β Tauri.....	G	5 17 16·27		7
13	ϵ Geminorum.	W	7 16 51·30		6
	α^2 Geminorum	W	7 25 29·35		7
	Moon	W	7 35 39·16	2	7
	ψ^3 Cancri.....	W	8 1 50·97		7
	θ Cancri.....	W	8 23 27·13		7
14	θ Cancri.....	G	8 23 26·89		7
	Moon	G	8 35 46·92	2	7
	ξ Cancri.....	G	9 1 8·44		7
	λ Leonis.....	G	9 23 33·61		7
15	ξ Cancri.....	W	9 1 8·56		7
	λ Leonis.....	W	9 23 33·88		7
	Moon	W	9 30 32·40	2	7
20	Moon	T	13 17 7·03	2	5

These Observations were made with the 8½ *foot Equatoreal.*

Day, 1856.	Star.	Phenomenon.	Moon's Limb.	Observer.	Sidereal Time.	Cape Mean Solar Time.
					h m s	h m s
April 25	(*a*) τ Sagittarii.	Disappearance	Bright	T	17 40 23·31	15 23 19·68
25	(*b*) τ Sagittarii.	Reappearance	Dark	T	19 10 48·76	16 53 30·32
Sept. 8	(*c*) B.A.C. 6127	Disappearance	Dark	T	20 20 36·18	9 8 22·39
8	(*d*) B.A.C. 6127	Reappearance	Bright	T	21 23 1·35	10 10 37·33
Nov. 12	(*e*) η Tauri.....	Disappearance	Bright	W	0 25 8·24	8 56 40·33
12	(*f*) η Tauri.....	Reappearance	Dark	W	1 29 59·81	10 1 21·27

(*a*), (*b*), (*c*). Good.
(*d*). Probably uncertain one second, owing to haze.
(*e*), (*f*). Cloudy; the star very faint, but fair observations.

ROYAL OBSERVATORY,
CAPE OF GOOD HOPE.

OBSERVATIONS
OF
ENCKE'S COMET,
MADE WITH THE
$8\frac{1}{2}$ FEET EQUATOREAL,
IN THE YEAR 1855.

Day, 1855.	Cape Mean Time of Observation of the Comet.	Diff. R.A. corrected for Refraction.	Parallax in R.A.	Apparent R.A. of Star.	Geocentric R.A. of Comet.	No. of Measures.	Star's No. in the Catalogue.
	h m s	m s	s	h m s	h m s		
July 13	6 25 51·68	+ 0 20·613	+ 0·477	9 10 36·61	9 10 57·70	12	83
16	6 52 44·38	+ 0 52·022	·516	9 31 46·65	9 32 39·19	6	90
17	6 36 10·29	— 0 47·781	·510	9 40 35·72	9 39 48·45	10	93
18	6 35 30·50	— 1 0·282	·514	9 48 4·59	9 47 4·82	12	94
19	6 30 58·80	— 0 50·285	·516	9 55 13·36	9 54 23·59	10	96
	7 1 30·72	— 0 40·966	·542	... ...	9 54 32·94	4	
22	6 16 42·41	+ 0 40·601	·511	10 16 3·05	10 16 44·16	10	103
24	6 52 23·41	— 0 11·904	·558	10 32 26·98	10 32 15·63	12	106
25	6 37 56·27	+ 0 30·302	·544	10 39 28·11	10 39 58·96	20	108
27	6 59 29·87	+ 0 11·387	·573	10 55 44·59	10 55 56·55	12	112
28	6 56 53·52	+ 0 11·872	·572	11 3 45·67	11 3 58·11	10	115
30	6 44 28·50	+ 1 12·401	·554	11 18 58·79	11 20 11·74	10	121
	7 15 28·30	1 22·997	·594	... ...	11 20 22·38	10	
31	6 48 32·40	+ 0 52·903	·558	11 27 35·13	11 28 28·59	10	123
	7 17 23·88	+ 1 2·910	·596	... ...	11 28 38·64	10	
	7 44 51·76	+ 1 12·126	·623	....	11 28 47·88	10	
Aug. 1	6 53 46·04	+ 0 7·381	·564	11 36 41·02	11 36 48·97	10	125
	7 13 25·31	+ 0 13·992	·591	... ...	11 36 55·60	10	
	7 42 12·23	+ 0 23·737	·622	... ...	11 37 5·38	10	
6	7 5 54·85	— 1 37·551	·558	12 20 25·24	12 18 48·25	14	136
7	7 20 18·67	— 1 4·940	·573	12 28 21·81	12 27 17·44	10	139
	7 55 51·32	— 0 52·372	·620	... ...	12 27 30·06	12	
8	7 17 19·95	+ 0 38·710	·562	12 34 59·67	12 35 38·94	10	144
	7 48 35·85	+ 0 49·325	·606	... ...	12 35 49·60	4	
9	7 15 11·49	— 0 32·510	·550	12 44 29·64	12 43 57·68	10	147
	7 46 22·21	— 0 22·185	·597	... ...	12 44 8·05	20	
10	7 22 50·10	— 0 31·261	·554	12 52 47·12	12 52 16·41	10	153
	7 54 11·65	— 0 20·432	·599	... ...	12 52 27·29	10	
11	7 11 53·60	— 0 50·969	·527	13 1 15·59	13 0 25·15	10	156
	7 59 0·35	— 0 34·935	·598	... ...	13 0 41·25	10	
12	7 26 52·60	— 1 1·087	·543	13 9 38·97	13 8 38·43	10	158
	8 0 56·24	— 0 49·385	·592	... ...	13 8 50·18	12	
16	7 16 17·69	— 0 44·682	·482	13 40 54·49	13 40 10·29	10	172
	7 47 2·89	— 0 34·324	+ 0·535	... ...	13 40 20·70	10	

Day, 1855.	Cape Mean Time of Observation of the Comet.	Diff. N.P.D. corrected for Refraction.	Parallax in N.P.D.	Apparent N.P.D. of Star.	Geocentric N.P.D. of Comet.	No. of Measures.	Star's No. in the Catalogue.
	h m s	′ ″	″	° ′ ″	° ′ ″		
July 13	6 39 6·45	−2 53·26	+5·33	80 5 36·18	80 2 48·25	5	83
16	6 32 38·67	+8 45·14	5·64	83 9 23·41	83 18 14·19	10	90
17	6 19 23·15	+2 27·53	5·76	84 22 14·43	84 24 47·74	5	93
	6 52 38·85	+4 0·27	5·65	... ...	84 26 20·37	5	
18	6 18 1·25	+3 50·89	5·57	85 29 2·06	85 32 58·52	8	94
19	6 50 28·23	−3 41·73	5·80	86 47 16·93	86 43 41·00	10	96
22	6 28 45·48	+5 2·97	5·90	90 10 8·42	90 15 17·29	1	103
24	6 37 54·86	−5 11·77	5·88	92 46 5·00	92 40 59·01	10	106
25	6 21 34·38	−4 0·01	5·81	93 57 6·72	93 53 12·52	10	108
	6 55 14·15	−2 17·08	5·89	... ...	93 54 55·53	10	
27	6 47 32·45	−5 30·55	5·75	96 26 33·99	96 21 9·19	10	112
28	6 39 17·76	+6 15·95	5·63	97 27 28·27	97 33 49·85	10	115
30	6 59 0·74	+2 13·81	5·54	99 57 4·95	99 59 24·30	8	121
31	6 33 41·44	−8 7·64	5·24	101 17 19·00	101 9 16·60	8	123
	7 2 43·46	−6 44·92	5·44	... ...	101 10 39·52	6	
	7 31 38·37	−5 19·77	5·65	... ...	101 12 4·88	6	
Aug. 1	7 4 9·95	+0 56·47	5·31	102 19 44·40	102 20 46·18	6	125
	7 26 29·32	+1 59·63	5·49	... ...	102 21 49·52	10	
6	6 43 25·05	−2 25·65	4·24	107 48 32·41	107 46 11·00	5	136
7	6 58 43·45	+0 14·78	4·20	108 45 55·15	108 46 14·13	8	139
	7 39 39·41	+1 58·40	4·66	... ...	108 47 58·21	6	
8	6 57 53·44	−1 5·76	3·99	109 44 18·21	109 43 16·44	4	144
	7 36 6·91	+0 16·93	4·43	... ...	109 44 39·57	6	
9	6 57 32·54	−0 51·56	3·79	110 38 43·40	110 37 55·63	6	147
	7 28 1·53	+0 18·02	4·14	... ...	110 39 5·56	6	
	8 12 45·40	+1 48·79	4·72	... ...	110 40 36·91	10	
10	7 7 57·05	−3 54·16	3·71	111 34 13·60	111 30 23·15	8	153
	7 36 44·32	−2 51·24	4·07	... ...	111 31 26·43	8	
11	6 51 11·45	−1 12·05	3·32	112 20 39·65	112 19 30·92	8	156
	7 34 0·45	+0 11·38	3·84	... ...	112 20 54·87	8	
12	7 10 2·84	+0 7·52	3·35	113 7 3·73	113 7 14·60	7	158
	7 43 59·27	+1 8·40	3·78	... ...	113 8 15·91	7	
16	6 59 51·37	−6 28·73	2·53	115 56 6·71	115 49 40·51	8	172
	7 30 29·74	−5 44·57	2·90	... ...	115 50 25·04	8	
	8 4 47·99	−4 59·23	3·36	... ...	115 51 10·84	8	

REMARKS.

July 13.—The Comet observed when between 8° and 10° of altitude. A very faint nebulosity, nearly circular, and about 1½′ in diameter.

July 16.—The Comet first seen when at an altitude of about 25°, and was detected when the twilight was bright enough to render the spider lines visible. The star of comparison did not appear until about 25^m afterwards, and was seen for about half an hour only, while the Comet could be clearly traced up to the time of its setting behind the "Lion Hill." After this date the Comet decreased very rapidly in brightness, and the observations were made with difficulty throughout.

July 17.—An attempt to measure the Comet's diameter gave 53″; but the Comet is low, and there is much haze in the western horizon.

July 19.—Bright moonlight and haze. After the last set for R.A., both objects became too faint for further observation.

July 22.—The observations this evening are not trustworthy, owing to the extreme faintness of the Comet, caused by moonlight and a foggy atmosphere. Only one measure for N.P.D. could be obtained.

July 24, 25, 27.—The moonlight nearly obliterates that of the Comet; observation very difficult.

July 28.—The observations this evening are very uncertain; the Comet so faint as to be only detected in the field when the eye is directed aside of its position.

July 31.—The Comet better seen this evening, owing to the absence of moonlight; but it has greatly decreased in brightness since the 16th, although observed at a higher altitude, and with a clearer sky.

August 1.—At about 6^h 40^m M.T., the Comet passed across the star of comparison, which star is of the 10½ mag., but without causing any sensible diminution of the light of the star; on the contrary, the star's light almost obliterated that of the Comet.

August 7.—The Comet's diameter is about 2½′; but there is very great uncertainty attending any attempt to measure it with the micrometer.

August 8.—The observations interrupted by clouds; only faint glimpses of the Comet can be seen.

August 9.—This evening has been favourable as to the state of the atmosphere,—the most favourable since the commencement of the observations of the Comet. Attempts to measure its diameter indicated $2\frac{1}{4}'$.

August 11.—The observations difficult, owing to the proximity of a star of the 7th mag. It was necessary to place the Comet at the edge of the field in order to exclude the star; but as the bodies approached, observation became impracticable.

August 12.—Comet's diameter about $1\frac{1}{4}'$.

August 16.—Comet's diameter about $1\frac{3}{4}'$.

Not seen after the 16th August.

RESULTS

OF

METEOROLOGICAL OBSERVATIONS

MADE AT THE

ROYAL OBSERVATORY,

CAPE OF GOOD HOPE.

CHIEFLY UNDER THE SUPERINTENDENCE OF

SIR THOS. MACLEAR, KT., F.R.S., F.R.A.S.

DISCUSSED AND PRINTED UNDER THE SUPERINTENDENCE OF

EDWARD JAMES STONE, M.A., F.R.S., F.R.A.S.,

FELLOW OF QUEEN'S COLLEGE, CAMBRIDGE,

AND HER MAJESTY'S ASTRONOMER AT THE CAPE.

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TABLE OF CONTENTS.

ERRATA.

INTRODUCTION.—Page vii, line 22. For "was" read "with."
line 39. For "Kuffer's" read "Kupffer's.
viii, line 26. Before "Robinson's" insert "of."

INTRODUCTION.

The systematic Meteorological Observations of the Royal Observatory, Cape of Good Hope, extend from the month of April, 1841, to the present time, in one nearly unbroken series.

In 1841, an Observatory, expressly arranged for Meteorological and Magnetical Observations, was erected in the Observatory Grounds, and placed under the superintendence of Captain (now General) Eardley Wilmot, R.A. The thermometers in this Observatory were placed in a crib before a south window, through which they could be read. Every attention appears to have been given to secure the free circulation of air, and to avoid any direct action of the sun's heat.

From 1841, April 1, to September 30, the observations were made at intervals of every two hours; from 1841, October 1, to the end of 1846, June 30, the observations were made at every hour of Gottingen mean time. The observations on the original scheme were then brought to a close, and the Magnetical and Meteorological Observatory placed under the superintendence of the Astronomer Royal at the Cape, Mr. (now Sir Thomas) Maclear. The Meteorological Observations were resumed in a restricted form in 1847, January 1. The hours of observation were 1^h, 5^h, 9^h, 17^h, and 21^h, Gottingen mean time. On 1852, March 10, the Magnetical and Meteorological buildings were unfortunately burnt down. A small wooden house, with double roof, and with a free passage of air, was then erected upon the site of the old Meteorological Observatory. The instruments were placed in the middle of the building. Observations were recommenced under the same scheme as before, and continued until the end of August, 1858. On 1858, September 1, the Meteorological instruments were transferred to a crib erected in front of the south-west window of the Transit Circle Room. The exposure there is similar in character to that in the original Meteorological Observatory. The passage of air is, however, considerably impeded by the projection of the dwelling-houses beyond the crib.

The observations were at first made at the same hours as before, but on 1860, January 1, they were changed to 1^h, 5^h, 9^h, 17^h, and 21^h, Cape mean times. The same scheme has been followed to 1870, December 31.

The Meteorological Observations made under the original scheme, from 1841 to 1846, have been printed in great detail under the superintendence of Colonel (now General Sir Edward Sabine, K.C.B.) and a copy in loose sheets was, in 1859, forwarded to this Observatory. There was no introduction nor any discussion of results. I am unaware of any complete publication of the work. It is from these printed sheets, with, however, some printers' errors corrected, that the observations from 1841 to 1846 have been collected. The original records were unfortunately burnt at the fire in 1852. The observations, subsequently to 1846, have been extracted from the original journals. It appeared desirable to print the results obtained in the period from 1841 to 1846, for completeness, and from the following consideration. The mean of the observations made at 1^h, 5^h, 9^h, 17^h, and 21^h has been taken in the Abstract Books of the Observatory. The arithmetical mean thus taken is not, however, the mean value for the day. In fact, if the expressions for the diurnal and semi-diurnal inequalities are, $x \operatorname{Sin}(15\,t + \alpha) + y \operatorname{Sin}(30\,t + \beta)$ the arithmetical mean taken as above = true daily mean $+ \frac{x}{5} \operatorname{Sin}(15 + \alpha) - \frac{y}{5} \operatorname{Sin}(30 + \beta)$. This correction will be found in the case of the temperatures to amount to $0^{\circ}.6$ F. It was clearly necessary to correct the results as extracted from the Abstract Books by the application of the proper corrections.

The hourly observations from 1841 to 1846 enable this to be done with considerable accuracy. I hope that the corrections, to reduce the observations, made at different hours of the day, to the mean daily value, may be useful in the Colony for the deduction of very approximate mean values, from the few daily observations which colonial observers, engaged in professional and other work, can find time to make and reduce. A much higher scientific value may thus be given to their work.

The following thermometers have been employed in making the observations for the mean temperature of the air and the tension of vapour. From 1841 to the end of August, 1858, a pair of thermometers by Robert Adie, Liverpool, were employed. The graduations are to every two tenths of a degree, and are engraved on ivory scales. The bulbs are elongated.

From 1858, September 1, to 1868, November 23, the thermometers, Negretti and Zambra No. 754 and 752, were employed as the dry-bulb and wet-bulb thermometers, respectively.

The following are the corrections as determined at Kew in 1857:

	32°	42°	52°	62°	72°	82°	92°
Negretti 754	0	0	+ 0·1	+ 0·1	0	— 0·2	— 0·2
Negretti 752	0	0	— 0·1	0	— 0·1	— 0·2	— 0·2

On 1868, November 24, the thermometers Negretti 754 and 752 were replaced by

Cassella 4422, as dry bulb thermometer.
Cassella 10146, as wet bulb thermometer.

The corrections required by these thermometers, as given on the Kew certificates, 1868, are:

	32°	42°	52°	62°	72°	82°	92°
Cassella 4422	0·0	— 0·1	— 0·1	— 0·2	— 0·2	— 0·2	— 0·1
Cassella 10146	0·0	+ 0·1	0·0	+ 0·1	+ 0·1	0·0	+ 0·1

On 1869, February 14, these thermometers were replaced by—

Cassella 9679
Cassella 9685
} The Kew certificates are not at the Observatory.

The readings of these thermometers from February 14 to August 5, 1869, have been increased by 0°·4,—a correction deduced from a comparison with the Observatory standard "Regnault."

From 1858, September 1, a thermometer, by Dollond, with a very large spherical bulb, and tube of large bore, had been read at the same times as the dry and wet-bulb thermometers. I have had the means of these readings taken. The results appeared to me to be valuable as a check upon the other results; more valuable from this thermometer still remaining in use, and the loss of the thermometer Negretti 754, which had been employed during eleven years of this period.

The whole of the observations from 1847 to 1870, October 21, were made under the superintendence of Sir Thomas Maclear, a sufficient guarantee of the general excellence of the observations. For the use which is here made of these observations, for the corrections which have been applied for index errors, and for the reduction of the arithmetical means to the mean daily values, I am alone responsible. I have, however, to acknowledge the great assistance received, on many points, from my first assistant, Mr. Mann. The corrections for the diurnal changes at the different Cape mean times have been deduced from curves swept through positions laid down for the Gottingen hours.

On leaving England to take charge of the Cape Observatory, I was naturally anxious to avail myself of the opportunity thus

afforded for the determining of the index errors of the thermometers in use. With this view I provided myself with a thermometer by Simms, which was most kindly compared for me by Mr. Glaisher. This thermometer was found to read almost identically with the Greenwich standard. An independent determination of the reading at the temperature of melting ice gave a correction of + 0°·05 F. On my arrival at the Cape I found that Sir Thomas Maclear had secured three modern standard thermometers. This had been done on account of the discordances between the readings of a very celebrated standard thermometer, "Regnault," which had been sent out to the Cape by General Sabine, in 1852, and the thermometers which had from time to time been forwarded to the Cape with Kew certificates.

These standard thermometers are Negretti and Zambra 12655, with a Kew certificate under date 1869, May; Cassella 3234 and Cassella 3949, with certificates, both dated 1869, July.

The following are the corrections to reduce to the Kew standard:

	Negretti 12655.	Cassella 3234	Cassella 3949.
At 32°	0·0	— 0·6	— 0·3
42°	— 0·1	— 0·7	— 0·3
52°	— 0·1	— 0·8	— 0·3
62°	— 0·1	— 0·8	— 0·4
72°	— 0·1	— 0·8	— 0·4
82°	— 0·1	— 0·7	— 0·3
92°	— 0·1	— 0·6	— 0·3
212°	+ 0·2	— 0·4	— 0·3

On comparing my thermometer with the three standards, after the application of the corrections as determined at Kew, the readings of all of the thermometers were fairly accordant.

I then commenced a comparison between these four thermometers and the standard by Regnault.

The result was that Regnault's standard appeared to have shifted its zero reading and required a correction of — 0°·88, when reduced with the values of scale and zero found in 1851.

The zeros of all the thermometers in use had been from time to time compared with this standard, and corrections had, in some cases, been applied to bring the readings into agreement with Regnault. It appeared, therefore, absolutely necessary that the cause of such a discrepancy should be traced as far as possible, and that the errors thus introduced by erroneous index corrections should be cleared from the readings.

The standard Regnault has an elongated bulb of considerable dimensions. The graduations are on the glass tube. The scale is arbitrary. The only distinguishing mark upon the thermometer which

can be found is "Fastre amé à Paris, 1850, No. 229." The zero points of the thermometer were apparently determined three times in the year 1851,—by the maker in Paris; at Toronto, by Colonel Lefroy; and on April 3 by Mr. Welsh, at Kew. Mr. Welsh gave 92 divisions for 32°· F., and 1°· F. = 0·3709 divisions.

These data have been adopted in the Cape comparisons. This thermometer and one by Mr. Welsh were forwarded by Colonel Sabine, through Mr. Morton, to Sir Thomas Maclear. The Kew standard was found on arrival to have some mercury lodged in the escape cistern at the top of the tube. This mercury could not easily be dislodged, and the thermometer was returned. The Regnault was found in good order, and there appears no doubt about the accuracy with which its zero point and the value of its scale divisions was then known.

The thermometer Regnault was compared in 1852, January, with several of the principal thermometers in the Observatory. The resulting corrections were as follows:

Temperature about 67°.

Adie, dry.	Adie, wet.	Dollond.	Jones.	Robinson.
— 0·48	— 0·39	— 0·27	— 0·35	— 0·55

The Adie thermometers were subsequently compared at temperatures of 54° and 57°·8 with the standard Regnault. This was done at the request of Colonel Sabine. The corrections were:

	54°	57°·8
Adie, dry bulb	— 0·355	— 0·327
Adie, wet bulb	— 0·311	— 0·323

In 1852, therefore, we are obliged to assume that the Adie thermometers had index errors of about 0°·37 F. The thermometers Adie have, as already stated, ivory scales, and they have been adjusted with great care to read together. These thermometers were made under the superintendence of Dr. Apjohn, and were made expressly for work of the highest class. It is not probable, therefore, that with scales which could be adjusted, and which had been adjusted so that the thermometers read alike, the errors at first amounted to anything like 0°·4 F. It is known that thermometers do usually read higher by age. To determine the corrections required by the different thermometers at present, I first tested the zero points of the thermometers in melting ice, and those of Regnault and Cassella 3949 in the steam of boiling water also. The zero points thus determined agreed in throwing the large error upon Regnault. The corrections to the other thermometers agreed fairly with the Kew corrections,—in fact, so closely, that as my arrangements for determining the boiling points

were not perfectly satisfactory, with respect to the temperature of the tube, I have adopted the Kew corrections for the standard thermometers.

The corrections for the other thermometers were then determined by comparing their readings with those of Negretti and Zambra 12655, Cassella 3234, and my thermometer by Simms. The mean discordance, after the application of the proper corrections to the standards, was taken as the true correction for the thermometer under comparison.

The comparisons were made in water at a temperature of about 70°. The standard Cassella 3949 was not employed on account of a slight disturbance of the zero points from the experiments in steam.

The following are the deduced corrections for the principal thermometers:

1870, December.

Doll.	Adie.	Neg. 752.	Cass. $\begin{cases} 9685 \\ 9679 \end{cases}$	Cass. 10146	Jones.	Rob.
— 0·62	— 0·87	— 0·76	— 0·36	+ 0·17	— 0·54	— 0·87

The Regnault standard had nearly the same index error as Adie; whilst in 1852 the readings of these the thermometers differed by nearly 0°·4.

The thermometer Negretti 752 is one of exactly the same description as Negretti 754. The index error of Negretti 752 was, in March, 1857, — 0°·1, at about the same temperature, 70°.

The index error of this thermometer appears, therefore, to have changed at about the rate of 0°·05 F. per annum.

It will be seen that each of the thermometers compared with Regnault in 1852, when the zero point reading of Regnault was well known, has increased its readings in eighteen years by quantities of considerable magnitude.

I have expressed an opinion that, from the care with which the thermometers Adie were prepared and adjusted to read together, the reputation of the maker and of Dr. Apjohn, who superintended the manufacture of the instruments, we should be justified in assuming the index errors of these thermometers to be exceedingly small at first. Assuming them to have no sensible index errors in 1840, and that the change has been sensibly uniform, we should require an annual change of 0°·029 to make up the index correction found to be required in 1870. This rate of change would give a correction of — 0°·35 for the year 1852. This result agrees with the observed discordance between these thermometers and Regnault in 1852. This agreement will, I think, be considered to render the assumptions made more than probable.

I have therefore considered the index correction of Adie to be

$$-0^{\circ}\cdot029 \text{ (year—1840)}.$$

The thermometers Dollond, Jones, and Robinson are all thermometers with large spherical bulbs and tubes of considerable interior bore.

These index corrections appear from the comparison of the results in 1852 with those obtained in 1870, to have changed at the rates of $-0^{\circ}\cdot019$, $-0^{\circ}\cdot011$, and $-0^{\circ}\cdot018$ per annum respectively.

I have assumed, therefore, the index error of Dollond to be

$$-0^{\circ}\cdot27-0^{\circ}\cdot019 \text{ (year—1852)}.$$

It has been mentioned that the thermometer used for the determination of the temperature of the air from 1858, September 1, to 1868, November 23, was the thermometer Negretti 754. This thermometer is unfortunately not available for the determination of its index error. The thermometer was one of the same class as Negretti 752. If its index error changed at the same rate as that of 752, we should have to assume its annual change.

$$= -0^{\circ}\cdot05 \text{ F}.$$

I have adopted this quantity as the annual change. On account, however, of the uncertainty thus introduced, I have had the means taken for the thermometer Dollond, which was always read at the same time was Negretti 754. The results of the observations of the two thermometers thus reduced are very accordant. I was quite aware, before the commencement of the comparisons of these thermometers, that thermometers did read higher by age; but I was not prepared for the systematic character and magnitude of the changes.

One great practical rule appears to result from the comparisons here made,—that it is useless to depend upon the corrections of any thermometer, however high its character, for many years; that no results relating to secular changes of temperature can be of much value unless the zeros of the thermometers have been duly tested from time to time.

It is my intention to have the zeros of our standard thermometers independently determined annually, and the index errors of the thermometers in use then determined by a comparison with these standards.

The calculations of the tension of vapour and of humidity have been made from the observed difference between the dry and wet bulb thermometers by the use of Kuffer's Tables up to 1858, August 31. Since which time Glaisher's Tables, founded on Regnault's experiments, have been employed.

The standard barometer is by Newman, No. 53. The interior of the tube is 0·508 inch. The scale is attached to the upper end of a brass rod, which terminates in a conical piece of ivory for adjustment to the surface of the mercury in the cistern.

The verneer subdivides to 0·002 inch.

The cistern is about 37 feet above the mean sea-level.

In the beginning of 1860, nine standard barometers by Negretti and Zambra, Nos. 290, 337, 338, 340, 341, 342, 352, 368, and 269, the property of the Colonial Government, were brought to the Cape by Sir Thos. Maclear. These barometers had all been compared with the standard of the Royal Observatory, Greenwich. Sir Thos. Maclear availed himself of this valuable opportunity to institute a comparison between the Cape and Greenwich standards. It appeared from the numerous and most careful comparisons then made that the Cape standard read higher than the Greenwich standard by + 0·015 inch. No correction for this discordance has been applied to the Cape observations.

Every reading of the barometer has been reduced to that which would correspond to the same pressure, at the temperature of 32° F. of the mercury, rod, and scale, by the application of the corrections given in Table 11 (pages 82, 87) of the Report of the Committee of Physics of the Royal Society. A correction of 0·003 has been applied for capillarity and a correction of 0·037 for reduction to the mean level of the sea.

The mean hourly velocity of the wind has been deduced from the revolutions of a set Robinson's cups by Casella.

The pressure gauge of the Observatory has never worked well. The spring, which by its compression measures the pressure of the wind, is too far removed from the plate upon which the wind acts. The whole vane is exceedingly heavy, and the friction and yielding of the different parts so great that no reliance can be placed upon the results.

The results for the direction of the wind have not been given. It may be mentioned that there are at the Observatory two great prevailing winds, the south and the north-west. To combine these results into monthly means would lead to a direction from which the wind very rarely blows. The south wind is more prevalent in the hot months than in the cold. The north-west is perhaps more prevalent about spring and autumn than during the other months of the year; but this wind is very variable.

At the end of the volume there will be found two curves representing the variations in the mean annual temperature compared with

the variations in solar spot frequency. The Mean Temperatures have been extracted from the corrected results of the present volume. When the observations of a year are incomplete, the Mean Temperatures for the missing months have been adopted from those of the corresponding months of the adjacent years. The Mean Temperatures for the years will be found in brackets, and have been allowed less weight. The variations, upon which the curve of Temperature has been constructed, are the differences between the adopted Mean Temperature for each year and the Mean Temperature for all the years for *that Station.*

The necessity for these precautions, in an inquiry respecting periodical variations of Temperature, will be sufficiently apparent.

The curve of freedom of the solar disc from spots, has been derived from Professor Wolfe's observations. There is an agreement between the curves, which will probably be regarded as too close to be the result of accident, and which renders it probable that the two phenomena, represented by the curves, result from the action of a common cause connected with changes of mean solar energy.

The expressions for the diurnal and annual variations have been given. It has been thought that the results thus exhibited would probably be those first available for theoretical inquiries. The corrections for Cape Mean Times have been derived from curves swept through positions laid down for Göttingen Mean Times; the expressions for the diurnal inequalities are those for Göttingen Mean Times with the epochs changed.

The Thermometer Readings are all given in degrees Fahrenheit.

The Tables which will probably be most useful in the Colony are Tables II, XIII, XVI, XIX. The corrections contained in these Tables are strictly applicable, only, to the geographical position of the Observatory, under the circumstances of exposure of the instruments in the original Meteorological Observatory. The corrections, especially for the Thermometers, will vary considerably under different circumstances of exposure. It must not, therefore, be expected, even within the limits of the Colony, that a perfect agreement will be obtained by the use of the corrections of these Tables from the observations made at different hours of the day. A close agreement may, in the Mean of a considerable number of observations, be fairly expected, provided the instruments have been properly protected from any direct or reflected heat of the Sun.

Whenever any deviations of a marked character are observed at particular hours of the day, a most careful examination of the circumstances of the exposure of the instruments should be made with especial reference to those hours at which the observations appear anomalous.

E. J. STONE.

1871, March 22.

TABLE I.

Corrections to the Temperature of the Air at each hour of the day, for the reduction to the Mean Daily Temperature, deduced from Observations made at the Royal Observatory, Cape of Good Hope, during the years 1841 *to* 1846.

GOTTINGEN MEAN TIME.

Hour.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Hour.
	°	°	°	°	°	°	°	°	°	°	°	°	°	
0	−5·58	−6·13	−5·98	−5·79	−4·90	−4·46	−4·78	−4·18	−4·85	−5·51	−5·54	−5·66	−5·28	0
1	−5·72	−6·16	−6·64	−6·31	−4·94	−4·65	−5·25	−4·57	−5·02	−5·74	−5·57	−5·87	−5·54	1
2	−5·45	−5·72	−6·43	−6·28	−5·10	−4·71	−5·22	−4·39	−4·90	−5·49	−5·17	−5·48	−5·37	2
3	−4·85	−4·94	−5·64	−5·43	−4·13	−4·18	−4·80	−3·95	−4·10	−4·69	−4·52	−4·85	−4·68	3
4	−3·94	−3·83	−4·20	−3·87	−3·06	−2·99	−3·17	−2·87	−2·87	−3·41	−3·73	−4·27	−3·52	4
5	−2·72	−2·45	−2·31	−1·59	−1·38	−1·44	−1·72	−1·25	−1·25	−1·59	−2·36	−2·87	−1·91	5
6	−0·36	−0·29	−0·22	−0·11	−0·39	−0·69	−0·56	−0·22	−0·05	+0·44	−0·03	−0·33	−0·24	6
7	+1·47	+1·22	+0·78	+0·50	+0·20	−0·11	−0·06	+0·30	+0·68	+1·29	+1·34	+1·42	+0·75	7
8	+2·13	+1·78	+1·38	+1·10	+0·96	+0·45	+0·71	+0·87	+1·09	+1·92	+2·08	+2·17	+1·38	8
9	+2·57	+2·16	+2·07	+1·65	+1·22	+0·89	+1·07	+1·06	+1·55	+2·46	+2·47	+2·72	+1·82	9
10	+3·07	+2·57	+2·56	+2·12	+1·95	+1·38	+1·64	+1·54	+1·91	+2·83	+2·94	+3·29	+2·31	10
11	+3·48	+2·98	+2·91	+2·76	+2·13	+1·82	+2·04	+1·74	+2·30	+3·23	+3·34	+3·77	+2·70	11
12	+3·81	+3·37	+3·39	+3·11	+2·35	+2·13	+2·31	+2·14	+2·47	+3·27	+3·64	+4·18	+3·01	12
13	+4·04	+3·68	+3·70	+3·36	+2·40	+2·28	+2·69	+2·35	+2·83	+3·64	+4·03	+4·54	+3·29	13
14	+4·26	+3·91	+4·07	+3·80	+2 68	+2·59	+2·87	+2·57	+3·23	+3·86	+4·46	+4·87	+3·59	14
15	+4·52	+4·31	+4·32	+3·83	+2·80	+2·61	+3·23	+2·79	+3·46	+4·09	+4·77	+5·19	+3·82	15
16	+4·73	+4·50	+4·61	+4·28	+3·10	+3·08	+3·23	+2·91	+3·81	+4·33	+4·98	+5·45	+4·08	16
17	+4·40	+4·79	+4·79	+4·35	+3·29	+3·19	+3·58	+3·47	+3·82	+4·34	+4·32	+4·53	+4·07	17
18	+2·38	+3·45	+4·45	+4·49	+3·65	+3·39	+3·81	+3·30	+3·73	+2·83	+1·91	+1·95	+3·27	18
19	+0·34	+1·58	+2·73	+3·14	+3·17	+3·31	+3 53	+2·78	+1·83	+0·89	−0·04	−0·42	+1·90	19
20	−1·20	−0·03	+0·37	+0·70	+1·18	+1·97	+1·68	+0·80	−0·26	−1·03	−1·50	−1·81	+0·07	20
21	−2·47	−1·81	−1·72	−1·51	−0·87	−0·28	−0·54	−0·91	−1·84	−2·76	−2·81	−3·06	−1·72	21
22	−3·88	−3·71	−3·74	−3·41	−2·61	−2 20	−2·51	−2·48	−3·30	−4·10	−4·04	−4·26	−3·36	22
23	−5·01	−5·19	−5·24	−4·72	−3·68	−3·28	−3·87	−3·64	−4·17	−5·07	−5·04	−5·06	−4·50	23

The expressions for the diurnal and semi-diurnal variations from the Mean are,

$$+ 4^{\circ}\cdot58 \sin (15h + 67^{\circ}\cdot15') + 1^{\circ}\cdot30 \sin (30h + 79^{\circ}\cdot33'),$$

where h expresses the number of hours from Gottingen Mean Noon.

TABLE II.

Corrections to the Temperature of the Air at each hour of the day, for the reduction to the Mean Daily Temperature, deduced from Observations made at the Royal Observatory, Cape of Good Hope, during the years 1841 *to* 1846.

CAPE MEAN TIME.

Hour.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Hour.
	°	°	°	°	°	°	°	°	°	°	°	°	°	
0	−5·32	−5·68	−5·56	−5·20	−4·21	−3·88	−4·32	−3·90	−4·53	−5·28	−5·28	−5 35	−4·88	0
1	−5·68	−6·21	−6·31	−6·06	−4·94	−4·62	−5·03	−4·42	−4·97	−5·64	−5·58	−5·79	−5·44	1
2	−5·66	−6·04	−6·65	−6·42	−5·03	−4·76	−5·28	−4·56	−5 02	−5·69	−5·46	−5·79	−5·53	2
3	−5·22	−5·40	−6·14	−5·99	−4·64	−4·48	−5·13	−4·26	−4·63	−5·22	−4·94	−5·30	−5·11	3
4	−4·53	−4·48	−5·12	−4·90	−3·70	−3·77	−4·37	−3·57	−3·70	−4·20	−4·20	−4·66	−4·27	4
5	−3·48	−3·21	−3·48	−3·00	−2·36	−2·21	−2·50	−2·04	−2·04	−2·65	−3·21	−3·77	−2·83	5
6	−1·80	−1·52	−1·14	−0·84	−0·89	−1·07	−1·16	−0·75	−0·65	−0·54	−1·38	−1·96	−1·14	6
7	+0·70	+0·36	+0·24	+0·16	−0·11	−0·42	−0·33	+0·03	+0·27	+0·88	+0·70	+0·70	+0·27	7
8	+1·76	+1·46	+1·04	+0·78	+0·54	+0·13	+0·28	+0·56	+0·87	+1·58	+1·64	+1·79	+1·04	8
9	+2·33	+1·97	+1·69	+1·32	+1·10	+0·63	+0·83	+0·98	+1·32	+2·16	+2·22	+2·43	+1·58	9
10	+2·80	+2·33	+2·24	+1·87	+1·60	+1·12	+1·32	+1·31	+1·72	+2·61	+2·70	+3·00	+2·05	10
11	+3·24	+2·75	+2 71	+2·40	+2·00	+1·56	+1·76	+1·62	+2·04	+3·00	+3·11	+3·49	+2·47	11
12	+3·62	+3·15	+3·15	+2·87	+2·24	+1·96	+2·14	+1·93	+2·34	+3·24	+3·48	+3·96	+2·84	12
13	+3·93	+3·50	+3·52	+3·21	+2·37	+2·20	+2·48	+2·16	+2·64	+3·47	+3·84	+4·34	+3·14	13
14	+4·17	+3·80	+3·86	+3·52	+2·52	+2·41	+2·77	+2·44	+2·97	+3·73	+4·22	+4·68	+3·42	14
15	+4·39	+4·11	+4·18	+3·80	+2·71	+2·64	+3·02	+2·71	+3·33	+3·95	+4·57	+5·01	+3·70	15
16	+4·62	+4·39	+4·46	+4·07	+2·93	+2·86	+3·21	+2·95	+3·62	+4·21	+4·89	+5·33	+3·96	16
17	+4·70	+4·66	+4·68	+4·32	+3·18	+3·13	+3·46	+3·24	+3·84	+4·40	+4·93	+5·33	+4·16	17
18	+3·70	+4·39	+4·78	+4·49	+3·43	+3·32	+3·73	+3·40	+3·89	+3·90	+3·40	+3·70	+3·84	18
19	+1·51	+2·61	+3·80	+4·10	+3·56	+3·44	+3·82	+3·18	+3·18	+2·12	+1·05	+0·58	+2·75	19
20	−0·28	+0·87	+1·73	+2·10	+2·32	+2·90	+2·92	+2·03	+0 86	+0·07	−0·70	−1·03	+1·15	20
21	−1·80	−0·77	−0·57	−0·22	+0·30	+0·97	+0·80	+0·11	−0·94	−1·82	−2·09	−2·34	−0·70	21
22	−3·18	−2·57	−2·71	−2·39	−1·70	−1·18	−1·50	−1·64	−2 49	−3·36	−3·36	−3·60	−2·48	22
23	−4·48	−4·30	−4·47	−4·00	−3·06	−2·69	−3·11	−3·01	−3·71	−4·58	−4·50	−4·60	−3·88	23

The expressions for the diurnal and semi-diurnal variations from the Mean are,

$$+ 4^{\circ}\cdot58 \sin (15h + 58^{\circ}\cdot43') + 1^{\circ}\cdot30 \sin (30h + 62^{\circ}\cdot29'),$$

where h expresses the number of hours from Cape Mean Noon.

TABLE III.

The Mean Temperature of the Air for each month of the year, for the years 1841 *to* 1870, *as extracted from the Abstract Books at the Royal Observatory, Cape of Good Hope.*

Mean Temperature for each month of	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	°	°	°	°	°	°	°	°	°	°	°	°
1841	...	...	...	63·24	57·60	53·72	55·75	54·88	53·86	57·51	61·99	62·95
1842	67·77	68·37	64·39	64·66	58·34	53·36	54·53	56·00	56·72	60·96	61·91	66·95
1843	68·15	66·95	64·43	Insts. undergoing re-adjust.	57·71	53·04	54·09	56·15	56 22	58·83	60·96	65·64
1844	68·87	68·48	67·41	62·33	59·62	55·12	54·59	55·22	57·42	60·77	63·67	65·17
1845	66·23	66·87	66·62	62·18	55·82	53·58	54·44	51·27	56·74	61·78	63·78	66·07
1846	66·88	68·89	65·97	61·33	56·58	55·58	...	...	...	...	...	...
1847	69·00	71·59	66·37	61·95	58·13	55·03	52·95	53·40	57·47	58·92	62·94	65·35
1848	70·51	67·85	68·03	61·25	58·87	55·28	54 90	54·31	57·53	61·92	65·12	67·47
1849	69·03	70·07	65·21	63·96	56·77	56·58	55·44	55·29	56·37	61·83	64·06	66·78
1850	66·42	67·66	66·62	63·29	56·31	54·63	54·86	54·96	58·09	61·56	62·14	67·08
1851	69·85	69·53	67·49	62·69	58·32	56·35	53·83	59·36	57·63	60·57	64·33	68·26
1852	69·04	72·01	66·87	63·53	58·14	57·28	53·58	55·74	57·79	61·56	63·66	69·27
1853	69·36	69·40	65·41	63·39	57·67	55·65	55·58	55·31	57·05	59·57	67·71	69·51
1854	71·21	68·96	65·27	63 52	60·41	57·36	53·83	55·48	58·03	60·58	66·80	68·56
1855	70·26	69·61	67·93	62·76	59·41	56·04	53·56	55·31	57·72	62·31	68·12	70·37
1856	71·44	72·64	67·74	63·44	59·36	56·76	53·94	53·64	58·11	61·27	65·95	67·60
1857	69·87	71·34	67·94	61·67	59·10	54·86	54·71	57·52	59·32	61·43	66·97	67·37
1858	68·78	69·50	68·02	66·84	58·71	56·90	52·87	55·55	57·85	61·04	65·35	67·50
1859	69·15	67·37	67·37	62·66	59·25	55·92	53·99	55·01	58·68	60·18	63·00	67·12
1860	70·25	69·86	66·41	63·25	57·42	54·41	53·41	60·44	55·12	62·15	64·79	68·39
1861	69·79	68·83	68·42	62·97	57·94	55·82	56·39	56·20	58·05	63·48	64·05	68·26
1862	69·28	68·06	66·32	62·94	60·26	56·95	54·62	55·08	55·93	57·10	62·40	69·69
1863	71·39	70·29	65·42	62·95	57·73	54·30	54·89	54·83	56·52	61·09	62·97	68·97
1864	70·26	70·37	67·65	62·08	58·34	54·70	55·10	56·42	57·95	61·73	64·46	68·83
1865	70·94	71·05	69·72	62·56	60·13	57·89	56·28	57·66	59·81	62·04	62·99	69·23
1866	71·37	68·53	69·17	63·41	60·41	55·66	55·56	56·08	58·64	61·49	65·83	67·35
1867	71·83	69·34	66·51	62 47	58·61	56·24	56·44	56·71	58·56	60·27	65·14	68·83
1868	70·07	68·18	65·38	61·01	57·93	55·19	55·05	57·72	57·81	60·73	63·93	67·60
1869	70·27	72·75	67·39	63·64	58·27	57·18	54·06	55·78	58·62	61·36	64·00	66·03
1870	68·38	69·73	65·57	62·68	55·30	55·64	53·93	54·63	58·56	61·88	67·42	68·21

TABLE IV.

Corrections to Monthly Means of Temperature of Air for the different years, including correction for error of Zero, and correction for diurnal change, 1841 *to* 1858, *August* 31.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	°	°	°	°	°	°	°	°	°	°	°	°
1841	...	...	...	—0·03	—0·03	—0·03	—0·03	—0·03	—0·03	—0·03	—0·03	—0·03
1842	—0·06	—0·06	—0·06	—0·06	—0·06	—0 06	—0 06	—0·06	—0·06	—0·06	—0·06	—0·06
1843	—0·09	—0·09	—0·09	—0·09	—0·09	—0·09	—0·09	—0·09	—0·09	—0·09	—0·09	—0·09
1844	—0·12	—0·12	—0·12	—0·12	—0·12	—0 12	—0·12	—0·12	—0·12	—0·12	—0·12	—0·12
1845	—0·15	—0·15	—0·15	—0·15	—0·15	—0·15	—0·15	—0·15	—0·15	—0·15	—0·15	—0·15
1846	—0·18	—0·18	—0·18	—0·18	—0·18	—0·18	—0·18	—0·18	—0·18	—0·18	—0·18	—0·18
1847	—1·01	—0·90	—0·97	—0·89	—0·75	—0·67	—0·78	—0·65	—0·76	—0·87	—1·00	—1·12
1848	—1·04	—0·93	—1·00	—0·92	—0·78	—0·70	—0·81	—0·68	—0·79	—0·90	—1·03	—1·15
1849	—1·07	—0·96	—1·03	—0·95	—0·81	—0·73	—0·84	—0·71	—0·82	—0·93	—1·06	—1·18
1850	—1·10	—0·99	—1·06	—0·98	—0·84	—0·76	—0·87	—0·74	—0·85	—0·96	—1·09	—1·21
1851	—1·13	—1·02	—1·09	—1·01	—0·87	—0·79	—0·90	—0·77	—0·88	—0·99	—1·12	—1·24
1852	—1·16	—1·05	...	...	—0·41	—0·42	—0·53	—0·40	—0·51	—0·62	—0·75	—0·87
1853	—0·79	—0·68	—0·75	—0·67	—0·53	—0·45	—0·56	—0·43	—0·54	—0·65	—0·78	—0·90
1854	—0·82	—0·71	—0·78	—0·70	—0·56	—0·48	—0·59	—0·46	—0·57	—0·68	—0·81	—0·93
1855	—0·85	—0·74	—0·81	—0·73	—0·59	—0·51	—0·62	—0·49	—0·60	—0·71	—0·84	—0·96
1856	—0·88	—0·77	—0·84	—0·76	—0·62	—0·54	—0·65	—0·52	—0·63	—0·74	—0·87	—0·99
1857	—0·91	—0·80	—0·87	—0·79	—0·65	—0·57	—0·68	—0·55	—0·66	—0·77	—0·90	—1·02
1858	—0·94	—0·83	—0·90	—0·82	—0·68	—0·60	—0·71	—0·58	...	...	...	...

TABLE V.

Corrections to the Monthly Means of Temperature of Air, as deduced from Observations of the Thermometer Negretti 754, Cassella 4422, and Cassella 9679, including index errors and corrections for diurnal changes.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	°	°	°	°	°	°	°	°	°	°	°	°
1858	...	...	...	...	...	...	...	...	—0·50	—0·61	—0·76	—0·90
1859	—0·85	—0·73	—0·80	—0·68	—0·54	—0·46	—0·57	—0·44	—0·55	—0·66	—0·80	—0·95
1860	—0·91	—0·83	—0·88	—0·79	—0·59	—0·45	—0·54	—0·48	—0·61	—0·76	—0·82	—0·93
1861	—0·96	—0·87	—0·95	—0·84	—0·64	—0·50	—0·59	—0·53	—0·66	—0·82	—0·86	—0·98
1862	—1·00	—0·91	—0·98	—0·89	—0·69	—0·55	—0·64	—0·58	—0·71	—0·86	—0·90	—1·05
1863	—1·07	—0·98	—1·02	—0·94	—0·74	—0·60	—0·69	—0·63	—0·76	—0·91	—0·96	—1·09
1864	—1·11	—1·03	—1·10	—0·98	—0·79	—0·65	—0·74	—0·68	—0·81	—0·96	—1·01	—1·14
1865	—1·17	—1·09	—1·17	—1·04	—0·84	—0·70	—0·79	—0·73	—0·86	—1·01	—1·06	—1·19
1866	—1·22	—1·12	—1·21	—1·09	—0·89	—0·75	—0·84	—0·78	—0·91	—1·06	—1·13	—1·22
1867	—1·29	—1·17	—1·24	—1·14	—0·94	—0·80	—0·89	—0·83	—0·96	—1·11	—1·17	—1·29
1868	—1·32	—1·21	—1·27	—1·18	—0·99	—0·85	—0·94	—0·88	—1·01	—1·16	—1·15	—1·03
1869	—0·99	—1·21	—1·56	—1·49	—1·30	—1·16	—1·25	—0·86	—0·92	—1·07	—1·11	—1·19
1870	—1·15	—1·07	—1·16	—1·09	—0·90	—0·76	—0·85	—0·79	—0·92	—1·07	—1·11	—1·19

TABLE VI.

Mean Temperature of the Air for each month of the year, from 1841, *April* 1, *to* 1852, *March* 31, *deduced from Observations made with the Thermometer Adie in the Meteorological Observatory.*

(RESULTS CORRECTED FROM TABLE IV.)

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Mean.
	°	°	°	°	°	°	°	°	°	°	°	°	°
1841	...	...	...	63·21	57·57	53·69	55·72	54·85	53·83	57·48	61·96	62·92	(60·13)
1842	67·71	68·31	64·33	64·60	58·28	53·30	54·47	55·94	56·66	60·70	61·85	66·89	61·09
1843	68·06	66·86	64·34	...	57·62	52·95	54·00	56·06	56·13	58·74	60·87	65·55	(60·38)
1844	68·75	68·36	67·29	62·21	59·50	55·00	54·47	55·10	57·30	60·65	63·55	65·05	61·44
1845	66·08	66·72	66·47	62·08	55·67	53·43	54·29	51·12	56·59	61·63	63·63	65·92	60·30
1846	66·70	68·71	65·79	61·15	56·40	55·40	...	...	...	...	...	...	(60·31)
1847	67·99	70·69	65·40	61·06	57·38	54·36	52·17	52·75	56·71	58·05	61·94	64·23	60·23
1848	69·47	66·92	67·03	60·33	58·09	54·58	54·09	53·63	56·74	61·02	64·09	66·32	61·08
1849	67·96	69·11	64·18	63·01	55·96	55·85	54·60	54·58	55·55	60·90	63·00	65·60	60·86
1850	65·32	66·67	65·56	62·31	55·47	53·87	53·99	54·22	57·24	60·60	61·05	65·87	60·18
1851	68·72	68·51	66·40	61·68	57·45	55·56	52·93	58·59	56·75	59·58	63·21	67·02	61·37
1852	67·88	70·96	...	...	...	...	...	...	...	...	...	...	...
Mean	67·69	68·35	65·68	62·16	57·22	54·36	54·07	54·68	56·35	59·94	62·52	65·54	(60·81)

TABLE VII.

Mean Temperature of the Air for each month of the year from 1852, *May, to* 1858, *August, deduced from Observations made with the Thermometer Adie in the Temporary Observatory.*

(RESULTS CORRECTED FROM TABLE IV.)

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Means
	°	°	°	°	°	°	°	°	°	°	°	°	°
1852	...	...	...	...	57·73	56·86	53·05	55·34	57·28	60·94	62·91	68·40	(61·43)
1853	68·57	68·72	64·66	62·72	57·14	55·20	55·02	54·88	56·51	58·92	66·93	68·61	61·49
1854	70·39	68·25	64·49	62·82	59·85	56·88	53·24	55·02	57·46	59·90	65·99	67·63	61·83
1855	69·41	68·87	67·12	62·03	58·82	55·53	52·94	54·82	57·12	61·60	67·28	69·41	62·08
1856	70·56	71·87	66·90	67·68	58·74	56·22	53·29	53·12	57·48	60·53	65·08	66·61	62·34
1857	68·96	70·54	67·07	60 88	58·45	54·29	54·03	56·97	58·66	60·66	66·07	66·35	61·91
1858	67·84	68·67	67·12	66·02	58·03	56·30	52·16	54·97	...	...	...	...	(61·90)
Means	69·29	69·49	66·23	63·69	58·39	55·90	53·39	55·02	57·42	60·43	65·71	67·83	(61·90)

The effect of the difference in the position of the Thermometers is very evident, especially for the hot months of the year.

TABLE VIII.

Mean Monthly Temperature of Air as deduced from Observations made with the Thermometers Negretti 754, *Cassella* 4422, *and Cassella* 9679.

(RESULTS CORRECTED FROM TABLE V.)

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means
	°	°	°	°	°	°	°	°	°	°	°	°	°
1858	...	...	...	...	...	...	...	...	57·35	60·43	64·59	66·60	...
1859	68·30	66·64	66·57	61·98	58·71	55·46	53·42	54·57	58·13	59·52	62·20	66·17	60·97
1860	69·34	69·03	65·53	62·46	56·83	53·96	52·87	59·96	54·51	61·39	63·97	67·46	61·44
1861	68·83	67·96	67·47	62·13	57·30	55·32	55·80	55·67	57·39	62·66	63·19	67·28	61·75
1862	68·28	67·15	65·34	62·05	59·57	56·40	53·98	54·50	55·22	56·24	61·50	68·64	60·74
1863	70·32	69·31	64·40	62·01	56·99	53·70	54·20	54·20	55·76	60·18	62·01	67·88	60·91
1864	69·15	69·34	66·55	61·10	57·55	54·05	54·36	55·74	57·14	60·77	63·45	67·69	61·41
1865	69·77	69·96	68·55	61·52	59·29	57·19	55·49	56·93	58·95	61·03	61·93	68·04	62·39
1866	70·15	67·41	67·96	62·32	59·52	54·91	54·72	55·30	57·73	60·43	64·70	66·13	61·77
1867	70·54	68·17	65·27	61·33	57·67	55·44	55·55	55·88	57·60	59·16	63·97	67·54	61·51
1868	68·75	66·97	64·11	59·83	56·94	54·34	54·11	56·84	56·80	59·57	62·78	66·57	60·63
1869	69·28	71·54	65·83	62·15	56·97	56·02	52·81	54·92	57·70	60·29	62·89	64·84	61·27
1870	67·23	68·66	64·41	61·59	54·40	54·88	53·08	53·84	57·64	60·81	66·31	67·02	60·82
Means	69·16	68·51	66·00	61·71	57·65	55·14	54·20	55·70	57·07	60·19	63·35	67·07	61·31

TABLE IX.

Mean Temperature of the Air for each month of the year, from 1858 *to* 1870, *deduced from Observations made at the Royal Observatory, Cape of Good Hope, with Dollond's Standard Thermometer.*

Mean Temperature for each month of	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	°	°	°	°	°	°	°	°	°	°	°	°
1858	...	...	...	...	...	...	...	...	...	61·33	65·42	67·53
1859	69·13	67·37	67·40	62·62	59·26	55·90	54·00	55·03	58·70	60·22	63·03	67·38
1860	70·27	69·89	66·46	63·26	57·48	54·38	53·37	60·42	55·10	62·18	64·77	68·38
1861	69·79	68·83	68·38	62·93	57·90	55·77	56·32	56·16	58·01	63·45	64·05	68·27
1862	69·30	68·09	66·36	62·90	60·26	56·91	54·62	55·06	55·94	57·13	62·44	69·72
1863	71·36	70·27	65·40	62·93	57·47	54·24	54·87	54·80	56·50	61·08	62·97	69·03
1864	70·26	70·36	67·60	62·09	58·29	54·67	55·04	56·36	57·92	61·67	64·48	68·80
1865	70·93	71·06	69·69	62·56	60·08	57·87	56·24	57·62	59·79	62·04	63·00	69·26
1866	71·31	68·48	69·07	63·29	60·29	55·54	55·43	55·92	58·46	61·37	65·71	67·26
1867	71·73	69·26	66·35	62·33	58·44	56·07	56·24	56·52	58·39	60·09	65·01	68·76
1868	69·97	68·07	65·18	60·86	57·78	54·98	54·82	57·52	57·68	60·63	63·62	67·45
1869	70·02	72·80	67·41	63·72	58·28	57·08	54·00	55·98	58·85	61·68	64·31	66·36
1870	68·70	69·98	65·81	62·87	55·50	55·85	54·18	54·90	58·89	62·17	67·69	68·47

TABLE X.

Corrections to Monthly Means of Temperature of Air as deduced from Observations of the Thermometer Dollond, including corrections for errors of Zero and corrections for diurnal change.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	°	°	°	°	°	°	°	°	°	°	°	°
1858	—0·98	—0·87	—0·94	—0·86	—0·72	—0·64	—0·75	—0·62	—0·73	—0·84	—0·97	—1·09
1859	1·00	0·89	0·96	0·88	0·74	0·66	0·77	0·64	0·75	0·86	0·99	1·11
1860	1·01	0·93	1·02	0·95	0·76	0·62	0·71	0·65	0·78	0·93	0·97	1·05
1861	1·03	0·95	1·04	0·97	0·78	0·64	0·73	0·67	0·80	0·95	0·99	1·07
1862	1·05	0·97	1·06	0·99	0·80	0·66	0·75	0·69	0·82	0·97	1·01	1·09
1863	1·07	0·99	1·08	1·01	0·82	0·68	0·77	0·71	0·84	0·99	1·03	1·11
1864	1·09	1·01	1·10	1·03	0·84	0·70	0·79	0·73	0·86	1·01	1·05	1·13
1865	1·11	1·03	1·12	1·05	0·86	0·72	0·81	0·75	0·88	1·03	1·07	1·15
1866	1·13	1·05	1·14	1·07	0·88	0·74	0·83	0·77	0·90	1·05	1·09	1·17
1867	1·15	1·07	1·16	1·09	0·90	0·76	0·85	0·79	0·92	1·07	1·11	1·19
1868	1·16	1·08	1·17	1·10	0·91	0·77	0·86	0·80	0·93	1·08	1·12	1·20
1869	1·18	1·10	1·19	1·12	0·93	0·79	0·88	0·82	0·95	1·10	1·14	1·22
1870	—1·20	—1·12	—1·21	—1·14	—0·95	—0·81	—0·90	—0·84	—0·97	—1·12	—1·16	—1·24

TABLE XI.

Mean Temperature of the Air for each Month of the Year from 1858, *October, to* 1870, *December* 31, *deduced from Observations made with Dollond's Thermometer.*

(RESULTS CORRECTED FROM TABLE X.)

Mean Temperature for each Month of	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Mean.
	°	°	°	°	°	°	°	°	°	°	°	°	°
1858	...	...	...	...	...	...	...	...	...	60·49	64·45	66·44	...
1859	68 13	66·48	66·44	61·74	58·52	55·24	53·23	54·39	57·95	59 36	62·04	66·27	60·86
1860	69·26	68·96	65·44	62·31	56·72	53·76	52·66	59·77	54·32	61·25	63·80	67·33	61·30
1861	68·76	67·88	67·34	61·96	57·12	55·13	55·59	55·49	57·21	62·50	63·06	67·20	61·60
1862	68·25	67·12	65·30	61·91	59·46	56·25	53·87	54·37	55·12	56·16	61·43	68·63	60·66
1863	70·29	69·28	64·32	61·92	56·65	53·56	54·10	54·09	55·66	60·09	61·94	67·92	60·82
1864	69·17	69·35	66·50	61·06	57·45	53·97	54·25	55·63	57·06	60·66	63·43	67·67	61·35
1865	69·82	70·03	68·57	61·51	59·22	57 15	55·43	56·87	58·91	61·01	61·93	68·11	62·38
1866	70·18	67·43	67·93	62·22	59·41	54·80	54·60	55·15	57·56	60·32	64·62	66·09	61·69
1867	70·58	68·19	65·19	61·24	57·54	55·31	55·39	55·73	57·47	59·02	63·90	67·57	61·43
1868	68·81	66·99	64·01	59·76	56·87	54·21	53·96	56·72	56·75	59·55	62·50	66·25	60·53
1869	68·84	71·70	66·22	62·60	57·35	56 29	53·12	55·16	57·90	60·58	63·17	65·14	61·51
1870	67·50	68·86	64·60	61·73	54·55	55·04	53·28	54·06	57·92	61·05	66·53	67·23	61·03
Mean	69·13	68·52	65·91	61·66	57·57	55·06	54·12	55·62	56·97	60·13	63·29	67·12	61·26

The effects of the different circumstances of exposure upon the Temperatures are sufficiently clearly marked.

For the present position of the Thermometers in the crib before the south-west window of the Transit-circle Room, we have from the Mean of the results derived from the Ordinary Dry-bulb Thermometers and Dollond's Thermometer.

$$\text{Temperature} = 61°{\cdot}29 + 7°{\cdot}35 \sin(\odot + 68°{\cdot}48') + 0°{\cdot}73 \sin(2\odot + 7°{\cdot}1')$$

where $\odot = 15°$ for the middle of January.

The whole of the Observations, from 1841 to 1870, combined in one series, lead to the result—

$$\text{Temperature} = 61°{\cdot}20 + 7°{\cdot}38 \sin(\odot + 67°{\cdot}32') + 0°{\cdot}56 \sin(2\odot - 14°{\cdot}21')$$

The hottest day would thus appear to be about January 29, with an average Temperature of 68°·92. The coldest about July 14, with an average Temperature of 54°·03.

No correction has been applied for the want of exact co-incidence between the middle of the month and the time of the Mean Temperature of the month. The correction is small; but will increase the co-efficients of the annual and semi-annual terms by 0°·08 and 0°·03, respectively, without much affecting the epochs.

TABLE XII.

Corrections for the reduction to the Mean Daily value of the height of the Barometer for each hour of the day, deduced from the Observations made at the Royal Observatory, Cape of Good Hope, during the years 1841 *to* 1846.

GOTTINGEN MEAN TIME.—THE UNIT IS 0·0001 OF AN INCH.

Hour.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Mean.	Hour.
0	— 60	— 45	— 5	+ 2	+105	+ 68	+ 29	+ 15	+ 17	— 4	0	— 33	+ 7	0
1	+ 6	+ 37	+105	+146	+238	+193	+177	+183	+147	+107	+ 92	+ 53	+124	1
2	+ 91	+133	+210	+190	+281	+267	+286	+232	+220	+211	+174	+135	+196	2
3	+171	+191	+238	+164	+257	+194	+221	+253	+243	+245	+205	+203	+215	3
4	+221	+222	+224	+155	+192	+150	+193	+198	+199	+193	+198	+245	+199	4
5	+163	+197	+171	+124	+133	+ 76	+122	+115	+130	+124	+130	+182	+139	5
6	+ 36	+ 85	+127	+ 42	+ 22	— 9	+ 41	+ 17	+ 56	+ 44	+ 4	+ 65	+ 44	6
7	— 64	— 18	+ 10	— 55	— 47	— 80	— 15	— 62	— 35	— 91	— 88	— 38	— 49	7
8	—148	—134	— 86	— 75	— 74	— 94	— 61	—105	—125	—195	—196	—145	—120	8
9	—200	—180	— 92	—115	—104	—143	— 72	—136	—111	—160	—196	—211	—143	9
10	—192	—141	— 63	— 99	— 79	—106	— 77	— 79	— 79	—147	—186	—211	—122	10
11	—127	—105	— 22	— 52	— 55	—108	— 30	— 65	— 8	—125	—108	—138	— 79	11
12	— 20	— 49	— 86	+ 10	— 8	+ 45	— 16	— 21	— 22	+ 6	+ 22	— 8	— 12	12
13	+106	+ 55	+ 11	+ 43	— 4	+ 83	+ 31	+ 35	+ 70	+117	+120	+116	+ 65	13
14	+214	+158	+ 95	+113	+ 38	+ 77	+ 55	+101	+168	+193	+182	+186	+132	14
15	+245	+212	+138	+213	+100	+166	+114	+145	+192	+201	+210	+204	+178	15
16	+172	+187	+113	+167	+118	+171	+131	+151	+140	+149	+146	+134	+148	16
17	+ 81	+ 82	+ 54	+ 96	+ 69	+144	+ 80	+ 85	+ 34	+ 28	+ 29	+ 37	+ 68	17
18	— 47	— 37	— 71	+ 8	— 11	+ 3	— 26	— 25	— 93	—108	— 68	— 74	— 46	18
19	—121	—140	—172	—121	—135	— 96	—118	—147	—191	—167	—148	—154	—143	19
20	—131	—179	—232	—247	—266	—208	—219	—239	—259	—203	—158	—152	—208	20
21	—143	—224	—277	—266	—311	—290	—325	—271	—281	—225	—163	—146	—244	21
22	—135	—191	—246	—236	—292	—306	—300	—256	—233	—154	—138	—151	—220	22
23	—108	—113	—148	—151	—171	—160	—172	—115	—167	— 51	— 66	—104	—127	23

The expressions for the semi-diurnal and diurnal inequalities from the Mean are,

$$-\overset{\text{in.}}{0{\cdot}0195}\sin(30h - 1°{\cdot}9') - \overset{\text{in.}}{0{\cdot}0048}\sin(15h - 6°{\cdot}56'),$$

where h expresses the number of hours from Gottingen Mean Noon.

TABLE XIII.

Corrections for the reduction to the Mean daily value of the height of the Barometer for each hour of the day, deduced from the Observations made at the Royal Observatory, Cape of Good Hope, during the years 1841 *to* 1846.

CAPE MEAN TIME.—THE UNIT IS 0·0001 OF AN INCH.

Hour.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Mean.	Hour.
0	— 90	— 87	— 96	— 92	— 60	— 55	— 78	— 56	— 99	— 26	— 34	— 74	— 71	0
1	— 36	— 11	+ 42	+ 71	+168	+124	+ 91	+ 91	+ 85	+ 41	+ 41	+ 2	+ 59	1
2	+ 42	+ 80	+152	+178	+266	+223	+216	+220	+184	+155	+133	+ 91	+162	2
3	+126	+160	+231	+186	+279	+226	+232	+241	+238	+240	+190	+167	+210	3
4	+204	+211	+236	+155	+231	+176	+211	+241	+232	+230	+206	+229	+214	4
5	+212	+221	+206	+151	+166	+125	+170	+162	+171	+164	+176	+231	+180	5
6	+110	+156	+153	+ 91	+ 94	+ 40	+ 85	+ 70	+100	+ 92	+ 78	+135	+100	6
7	— 9	+ 40	+ 86	— 2	— 12	— 45	+ 16	— 20	+ 22	0	— 35	+ 21	+ 5	7
8	—103	— 69	— 42	— 67	— 62	— 88	— 39	— 82	— 86	—165	—138	— 80	— 85	8
9	—175	—161	— 95	— 88	— 85	—112	— 69	—123	—122	—186	—202	—178	—133	9
10	—206	—173	— 83	—115	—100	—136	— 76	—121	—100	—150	—194	—228	—140	10
11	—170	—125	— 42	— 80	— 70	—107	— 65	— 70	— 44	—142	—160	—180	—105	11
12	— 88	— 85	— 38	— 29	— 38	— 80	— 20	— 51	— 5	— 80	— 60	— 90	— 55	12
13	+ 30	— 9	— 74	+ 29	— 5	+ 74	— 2	+ 1	+ 2	+ 51	+ 70	+ 46	+ 18	13
14	+164	+104	+ 54	+ 64	+ 10	+ 80	+ 44	+ 60	+120	+156	+150	+154	+ 97	14
15	+236	+188	+122	+175	+ 67	+101	+ 75	+124	+184	+204	+200	+203	+157	15
16	+226	+213	+136	+207	+114	+174	+129	+151	+180	+186	+196	+182	+175	16
17	+135	+146	+ 90	+137	+106	+162	+118	+136	+ 97	+100	+100	+ 95	+119	17
18	+ 30	+ 34	+ 8	+ 62	+ 35	+115	+ 41	+ 45	— 23	— 38	— 15	— 9	+ 24	18
19	— 88	— 87	—120	— 40	— 61	— 50	— 66	— 78	—140	—140	—108	—120	— 91	19
20	—130	—160	—203	—184	—192	—130	—158	—190	—225	—182	—156	—159	—172	20
21	—136	—195	—254	—261	—290	—254	—267	—262	—273	—215	—160	—149	—226	21
22	—144	—221	—278	—259	—314	—314	—330	—270	—271	—215	—157	—145	—243	22
23	—127	—162	—210	—210	—252	—285	—252	—215	—206	—104	—110	—139	—189	23

The expressions for the semi-diurnal and diurnal variations from the Mean are,

$$\overset{\text{in.}}{-0{\cdot}0195}\sin(30h - 18°{\cdot}12') - \overset{\text{in.}}{0{\cdot}0048}\sin(15h - 15°{\cdot}28'),$$

where h expresses the number of hours from Cape Mean Noon.

The mean daily changes in the Barometer readings are very small. The difference between the greatest and least being on the average only 0·046 inches. The minima readings occur about $3^h\ 48^m$ and $15^h\ 23^m$. The maxima readings about $9^h\ 45^m$ and $21^h\ 26^m$. The diurnal inequalities are so small that they cannot be determined with much accuracy for the

different months. The semi-diurnal inequalities, where h expresses the number of hours from Cape Mean Noon, are—

	in.
January...	$-0{\cdot}0191 \sin(30h - 24° 27')$
February	$-0{\cdot}0199 \sin(30h - 27° 19')$
March	$-0{\cdot}0183 \sin(30h - 23° 52')$
April	$-0{\cdot}0189 \sin(30h - 19° 42')$
May	$-0{\cdot}0196 \sin(30h - 15° 29')$
June	$-0{\cdot}0203 \sin(30h - 16° 23')$
July	$-0{\cdot}0184 \sin(30h - 20° 14')$
August	$-0{\cdot}0199 \sin(30h - 16° 8')$
September	$-0{\cdot}0205 \sin(30h - 12° 48')$
October	$-0{\cdot}0209 \sin(30h - 10° 40')$
November	$-0{\cdot}0197 \sin(30h - 12° 2')$
December	$-0{\cdot}0197 \sin(30h - 21° 27')$

The co-efficients and epochs vary but little for the different months of the year. The agreement of the epochs is, however, even closer if they are referred to apparent times. It appears that we may represent the daily variations of the Barometer, at the Cape, very approximately by conceiving them to arise from a semi-diurnal tide with low Barometer reading, always following the Sun by $3^h\ 36^m$.

TABLE XIV.

Mean Barometric Pressure for each month of the year, from 1841 *to* 1870, *as deduced from Observations made at the Royal Observatory, Cape of Good Hope.—Barometer at* 32° *Faht., corrected to the level of the Sea by the addition of* 0·037 *inches.*

Pressure for each month of	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Means.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1841	...	...	...	30·067	30·145	30·188	30·246	30·128	30·143	30·021	30·032	30·024	30·111
1842	29·977	30·003	30·005	30·021	30·124	30·122	30·236	30·149	30·109	30·117	30·012	30·011	30·074
1843	29·984	29·945	30·011	...	30·123	30·110	30·218	30·205	30·224	30·071	29·976	30·023	30·108
1844	29·946	29·964	29·960	30·027	30·162	30·174	30·232	30·186	30·121	30·098	29·989	29·989	30·071
1845	29·989	29·971	30·045	30·093	30·120	30·268	30·200	30·222	30·088	30·092	30·049	30·002	30·095
1846	29·986	29·988	30·023	30·078	30·101	30·162	...	...	...	...	...	...	30·056
1847	29·963	29·991	30·003	30·050	30·087	30·169	30·171	30·160	30·107	30·108	30·051	30·008	30·074
1848	29·911	29·916	29·964	29·951	30·079	30·178	30·155	30·141	30·124	30·119	30·020	29·948	30·042
1849	29·958	29·956	30·019	30·056	30·080	30·154	30·190	30·196	30·148	30·085	29·991	29·955	30·066
1850	29·939	29·966	29·994	30·010	30·081	30·096	30·096	30·191	30·120	30·021	30·047	30·002	30·047
1851	29·955	29·984	30·035	30·042	30·070	30·127	30·185	30·231	30·103	30·039	29·998	29·968	30·061
1852	30·004	29·961	29·979	29·998	30·057	30·208	30·210	30·180	30·142	30·107	30·071	29·991	30·076
1853	29·996	29·965	30·003	30·036	30·135	30·176	30·247	30·150	30·228	30·099	30·030	29·985	30·088
1854	29·958	29·965	30·011	30·076	30·084	30·224	30·207	30·225	30·152	30·093	30·013	30·011	30·085
1855	29·979	29·984	30·014	30·105	30·183	30·157	30·254	30·115	30·139	30·092	30·022	30·003	30·087
1856	30·027	29·994	30·012	30·064	30·176	30·146	30·222	30·201	30·108	30·121	30·032	29·974	30·090
1857	29·969	29·963	29·996	30·098	30·115	30·079	30·210	30·224	30·134	30·127	30·027	30·029	30·081
1858	29·986	29·973	30·049	30·023	30·161	30·160	30·209	30·091	30·163	30·107	30·026	29·976	30·085
1859	29·957	29·984	30·006	30·093	30·010	30·159	30·196	30·205	30·079	30·060	29·998	29·999	30·062
1860	29·990	29·928	29·997	30·092	30·093	30·133	30·161	30·139	30·089	30·075	30·060	29·976	30·061
1861	29·940	29·962	29·998	30·041	30·051	30·132	30·208	30·181	30·095	30·055	30·030	29·955	30·054
1862	29·967	29·954	30·006	29·986	30·094	29·993	30·107	30·159	30·098	30·045	30·022	29·945	30·031
1863	29·959	29·941	29·961	30·023	30·144	30·180	30·204	30·173	30·162	30·042	30·054	29·980	30·069
1864	29·966	29·928	30·022	30·083	30·073	30·124	30·211	30·169	30·146	30·051	30·044	29·983	30·067
1865	30·004	29·968	29·975	30·063	30·095	30·249	30·162	30·161	30·103	30·032	30·102	29·966	30·073
1866	29·962	29·917	29·984	30·049	30·149	30·158	30·259	30·093	30·191	30·080	30·028	30·012	30·074
1867	29·942	29·983	29·995	30·036	30·117	30·172	30·170	30·170	30·176	30·108	30·056	29·982	30·076
1868	29·943	29·969	30·088	30·092	30·074	30·220	30·194	30·157	30·112	30·092	30·060	30·022	30 081
1869	29·955	29·983	30·007	30·105	30·070	30·102	30·231	30·256	30·115	30·071	30·020	29·949	30·072
1870	29·900	29·929	29·955	30·086	30·067	30·212	30·177	30·120	30·157	30·055	29·991	29·968	30·051
Means	29·966	29·963	30·002	30·053	30·104	30·158	30·199	30·172	30·134	30·079	30·029	29·987	30·067

The results deduced from the five daily Observations require correction to the true daily Mean. These corrections are, however, for the Barometer, but small. The final correction from this cause only amounts to — 0·002

inches for the month of October, when it is at its maximum. Applying the corrections required, the following are the Mean Barometer readings for the different months,—

Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
					30·070 inches.						
−0·104	−0·107	−0·068	−0·017	+0·035	+0·089	+0·130	+0·102	+0·063	+0·007	−0·042	−0·083.

The expression for the reading of the Barometer thus becomes

$$= 30{\cdot}070 - 0{\cdot}1123 \sin(\odot + 67^\circ\ 18') - 0{\cdot}0067 \sin(2\odot - 108^\circ\ 50') - 0{\cdot}0055 \sin(3\odot + 15^\circ).$$

$\odot$ is 15° for the middle of January, and increases by 30° for each month.

The only important term is the first. It will be noticed that the epoch 67° 18′ is nearly the same as 67° 32′, the epoch of the principal term in the expression of the Temperature. The lowest Barometer occurs, therefore at about the time of the greatest heat, and the highest Barometer at about the time of the greatest cold.

TABLE XV.

Corrections for the reduction to the Mean Daily value of the Tension of the Vapour for each hour of the Day, deduced from the Observations made at the Royal Observatory, Cape of Good Hope, during the years 1841 *to* 1846.

GOTTINGEN MEAN TIME.—THE UNIT IS 0·0001 OF AN INCH.

Hour.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Mean.	Hour.
0	−195	−186	−124	−108	−182	−208	−162	−176	−166	−158	−122	−102	−157	0
1	−197	−242	−136	− 50	−204	−190	−175	−177	−157	−144	−140	− 98	−159	1
2	−237	−252	−170	−124	−205	−198	−226	−186	−136	−152	−116	−122	−177	2
3	−219	−244	−164	−135	−218	−184	−222	−157	−120	−168	−128	−120	−173	3
4	−183	−238	−186	− 98	−210	−181	−194	−126	−104	−146	−106	−134	−159	4
5	−167	−186	−186	−103	−156	−112	−147	− 97	− 72	−122	− 98	−102	−129	5
6	−133	−136	−140	− 60	− 59	− 76	− 70	− 28	− 26	− 46	− 42	− 92	− 76	6
7	− 49	− 88	−106	− 30	− 18	− 20	− 75	− 12	+ 15	+ 22	− 12	− 72	− 37	7
8	+ 7	− 28	− 82	0	+ 45	− 1	− 10	+ 22	+ 20	+ 50	+ 4	− 58	− 3	8
9	+ 59	+ 20	− 82	+ 2	+ 42	+ 26	+ 5	+ 48	+ 70	+ 68	+ 36	− 28	+ 22	9
10	+ 83	+ 54	− 34	+ 50	+111	+ 85	+ 62	+ 58	+ 88	+ 82	+ 66	+ 30	+ 61	10
11	+109	+146	+ 12	+ 90	+126	+ 72	+103	+ 93	+103	+126	+110	+ 74	+ 97	11
12	+115	+172	+ 98	+ 82	+116	+115	+114	+104	+118	+108	+ 98	+132	+114	12
13	+155	+202	+144	+107	+136	+146	+145	+128	+130	+130	+128	+160	+143	13
14	+199	+234	+176	+126	+141	+155	+166	+166	+124	+160	+176	+200	+169	14
15	+253	+264	+218	+115	+152	+156	+193	+168	+175	+208	+214	+240	+196	15
16	+283	+272	+240	+150	+165	+210	+212	+192	+158	+204	+242	+244	+214	16
17	+263	+310	+270	+180	+198	+206	+250	+210	+188	+186	+150	+144	+213	17
18	+119	+150	+234	+174	+230	+227	+268	+212	+162	+ 60	− 24	+ 10	+152	18
19	+ 49	+ 48	+ 96	+ 20	+182	+222	+240	+113	− 32	− 2	− 52	− 34	+ 71	19
20	− 13	− 16	− 2	− 94	− 32	+ 57	+ 28	− 32	− 88	− 90	− 80	− 32	− 33	20
21	− 49	− 42	− 24	−100	−130	−102	−130	−162	−127	−106	−100	− 22	− 91	21
22	−107	−102	− 28	−100	−119	−170	−180	−150	−168	−112	−102	− 80	−118	22
23	−157	−166	− 20	− 88	−150	−184	−185	−185	−180	−134	−108	−104	−138	23

The expressions for the diurnal and semi-diurnal variations from the Mean value are,

$$+ 0^{\text{in.}}\cdot0186 \sin (15h + 55°\cdot59') + 0^{\text{in.}}\cdot0026 \sin (30h + 45°),$$

where h expresses the number of hours from Gottingen Mean Noon.

TABLE XVI.

Corrections for the reduction to the Mean Daily value of the Tension of the Vapour, for each hour of the day, deduced from the Observations made at the Royal Observatory, Cape of Good Hope, during the years 1841 *to* 1846.

CAPE MEAN TIME.—THE UNIT IS 0·0001 OF AN INCH.

Hour.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Mean.	Hour.
0	—173	—179	— 25	— 87	—169	—192	—179	—192	—177	—144	—114	—104	—145	0
1	—190	—208	—127	— 73	—190	—195	—159	—174	—164	—150	—135	— 97	—155	1
2	—214	—250	—157	— 56	—205	—197	—201	—185	—146	—145	—126	—106	—166	2
3	—241	—248	—166	—138	—210	—189	—232	—177	—131	—162	—118	—123	—178	3
4	—200	—244	—171	—116	—220	—185	—208	—141	—111	—162	—122	—125	—167	4
5	—178	—220	—196	— 99	—181	—166	—177	—116	— 93	—135	—102	—125	—149	5
6	—151	—164	—164	— 90	—129	— 94	—100	— 60	— 49	—100	— 83	— 96	—107	6
7	—100	—118	—127	— 44	— 37	— 57	— 71	— 18	— 10	— 6	— 25	— 84	— 58	7
8	— 21	— 60	— 94	— 20	+ 5	— 10	— 54	— 1	+ 19	+ 32	— 6	— 65	— 23	8
9	+ 30	— 10	— 83	+ 1	+ 46	+ 8	— 1	+ 36	+ 32	+ 60	+ 19	— 47	+ 8	9
10	+ 70	+ 36	— 67	+ 18	+ 55	+ 69	+ 21	+ 52	+ 79	+ 72	+ 46	0	+ 38	10
11	+ 93	+ 87	— 14	+ 70	+123	+ 82	+ 85	+ 70	+ 94	+108	+ 92	+ 46	+ 78	11
12	+112	+157	+ 44	+ 88	+123	+ 78	+109	+100	+111	+122	+108	+102	+105	12
13	+130	+188	+120	+ 88	+122	+137	+125	+112	+123	+112	+105	+144	+126	13
14	+175	+215	+156	+119	+140	+150	+155	+140	+127	+145	+154	+178	+155	14
15	+221	+245	+196	+121	+145	+157	+176	+158	+134	+175	+190	+217	+178	15
16	+267	+269	+225	+120	+158	+165	+204	+177	+174	+213	+232	+250	+205	16
17	+282	+284	+252	+166	+175	+212	+226	+201	+166	+195	+236	+220	+218	17
18	+196	+266	+266	+182	+215	+212	+262	+215	+188	+160	+ 56	+ 76	+191	18
19	+ 81	+ 96	+185	+132	+226	+233	+270	+180	+ 90	+ 28	— 36	— 17	+122	19
20	+ 25	+ 17	+ 43	— 60	+107	+170	+160	+ 60	— 60	— 33	— 66	— 39	+ 27	20
21	— 29	— 30	— 15	— 99	—117	— 10	— 50	—142	—102	—101	— 86	— 24	— 67	21
22	— 71	— 63	— 28	—100	—125	—144	—157	—159	—148	—106	—104	— 37	—104	22
23	—130	—128	— 25	— 97	—128	—178	—186	—159	—176	—123	—100	— 95	—127	23

The expressions for the diurnal and semi-diurnal variations from the Mean value are,

$$+ 0{\cdot}0186 \text{ in. } \sin(15h + 47°{\cdot}27') + 0{\cdot}0026 \text{ in. } \sin(30h. + 28°),$$

where h expresses the number of hours from Cape Mean Noon.

TABLE XVII.

Mean Tension of the Atmospheric Vapour for each month of the year, from 1841 *to* 1870, *as deduced from Observations made at the Royal Observatory, Cape of Good Hope.*

Mean Tension for each month of	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1841	...	...	...	·440	·358	·326	·351	·363	·329	·376	·424	·423
1842	·506	·470	·434	·428	·386	·328	·339	·357	·365	·376	·396	·443
1843	·464	·470	·421	...	·424	·343	·332	·338	·336	·360	·393	·438
1844	·480	·481	·488	·408	·356	·347	·329	·333	·334	·373	·404	·426
1845	·448	·470	·434	·406	·345	·304	·313	·299	·366	·390	·381	·407
1846	·455	·485	·423	·382	·365	·354	...	...	...	...	...	...
1847	·443	·512	·433	·383	·354	·333	·332	·326	·360	·361	·392	·414
1848	·490	·482	·499	·437	·385	·365	·356	·354	·376	·396	·442	458
1849	·440	·483	·405	·432	·379	·385	·390	·369	·357	·401	·397	·444
1850	·452	·483	·478	·461	·389	·362	·358	·357	·402	·443	·438	·480
1851	·529	·517	·486	·450	·384	·367	·342	·363	·358	·395	·433	·447
1852	·440	·496	·431	·434	·362	·360	·335	·353	·356	·372	·363	·464
1853	·454	·450	·412	·418	·373	·343	·316	·326	·328	·352	·423	·443
1854	·452	·471	·467	·426	·391	·358	·333	·336	·331	·365	·434	·439
1855	·446	·468	·471	·400	·383	·367	·326	·349	·373	·401	·445	·462
1856	·492	·493	·453	·451	·396	·374	·327	·308	·359	·378	·398	·452
1857	·438	·477	·446	·396	·391	·353	·315	·366	·376	·379	·433	·420
1858	·456	·473	·438	·411	·391	·370	·330	·349	·359	·372	·400	·422
1859	·470	·453	·449	·420	·383	·364	·320	·354	·378	·383	·419	·421
1860	·472	·507	·429	·392	·381	·338	·319	·382	·334	·394	·379	·457
1861	·469	·426	·448	·412	·381	·360	·348	·361	·375	·389	·384	·447
1862	·436	·441	·423	·398	·387	·369	·345	·334	·337	·349	·404	·471
1863	·484	·470	·455	·425	·367	·346	·349	·351	·332	·396	·374	·466
1864	·468	·477	·425	·377	·384	·335	·346	·341	·362	·386	·401	·455
1865	·471	·485	·483	·402	·373	·372	·371	·365	·378	·409	·364	·433
1866	·465	·481	·453	·437	·398	·353	·338	·375	·364	·394	·445	·414
1867	·460	·449	·451	·427	·414	·360	·349	·348	·342	·376	·406	·461
1868	·462	·454	·409	·375	·384	·356	·323	·354	·373	·357	·409	·442
1869	·480	·507	·436	·412	·387	·390	·336	·352	·398	·403	·427	·412
1870	·468	·467	·438	·394	·357	·358	·339	·348	·366	·397	·441	·444
Means	·4652	·4758	·4454	·4150	·3803	·3546	·3382	·3487	·3588	·3836	·4086	·4416

The Tensions as given in this Table require three small corrections—

1. To correct for the diurnal inequalities.
2. To correct for erroneous index errors of Thermometers.

3. To reduce the results to those which would have been obtained if Glaisher's Tables had been used throughout.

These corrections have been calculated for Mean values.

The final corrections are as follows—

Jan.	Feb.	Mar.	April.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.
−0·008	−0·010	−0·009	−0·005	−0·007	−0·005	− 0·005	− 0·004	−0·004	−0·006	−0·008	−0·008.

The results for the different months corrected are—

0·457	0·466	0·436	0·410	0·373	0·350	0·333	0·345	0·355	0·378	0·401	0·434.

The expression for the Tension is—

$$= \overset{\text{in.}}{0{\cdot}395} + 0{\cdot}0615 \sin(\odot + 59^\circ 51') + 0{\cdot}0078 \sin(2\odot + 5^\circ 19').$$

The annual variations of the Tension agree very closely, as might of course have been expected, with those of the Temperature.

The Tension being greatest, 0·464, about February 4, and least, 0·340, about July 20.

The direct effect of the Tension of Vapour present near the Barometer is to increase the reading of the Barometer. Subtracting the Tensions from the Barometer readings we have for the pressure of Dry Air—

Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
					29·675 inches.						
−0·167	−0·179	−0·109	−0·032	+0·057	+0·133	+0·191	+0·152	+0·103	+0·024	−0·048	−0·122.

The expression for the pressure of Dry Air becomes—

$$= \overset{\text{in.}}{29{\cdot}675} - 0{\cdot}1735 \sin(\odot + 64^\circ 39') - 0{\cdot}008 \sin(2\odot - 55^\circ 34').$$

On comparing this expression with that for the Temperature, it will be seen that the pressure of Dry Air is a maximum when the Temperature is near the minimum, and a minimum when the Temperature is near the maximum. This is the reverse of the Tension of Vapour.

The changes of Mean Annual Tension follow very closely the changes of Mean Annual Temperature.

The effects of the change in the circumstances of exposure of the Thermometers, in 1852, are very marked.

TABLE XVIII.

Corrections for the reduction to the Mean Daily value of the Humidity of the Air for each hour of the day, deduced from the Observations made at the Royal Observatory, Cape of Good Hope, during the years 1841 *to* 1846.

GOTTINGEN MEAN TIME.—COMPLETE SATURATION = 100.

Hour.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Hour.
0	+10·0	+10·8	+11·6	+11·4	+ 8·8	+ 6·6	+ 8·4	+ 7·4	+ 8·4	+ 9·8	+10·8	+11·0	+ 9·6	0
1	+10·4	+10·6	+12·4	+12·7	+ 8·2	+ 8·0	+ 9·0	+ 7·8	+ 9·0	+11·0	+10·6	+11·6	+10·1	1
2	+ 9·4	+ 9·6	+11·6	+12·2	+ 8·5	+ 7·8	+ 8·4	+ 7·4	+ 9·2	+10·2	+10·0	+10·8	+ 9·6	2
3	+ 8·4	+ 8·0	+10·4	+10·0	+ 6·6	+ 6·8	+ 7·5	+ 6·8	+ 8·0	+ 8·4	+ 8·8	+ 9·6	+ 8·3	3
4	+ 6·8	+ 5·8	+ 7·0	+ 7·6	+ 4·1	+ 4·3	+ 3·8	+ 5·0	+ 5·4	+ 6·6	+ 7·6	+ 8·2	+ 6·0	4
5	+ 4·4	+ 3·2	+ 3·0	+ 2·2	+ 1·0	+ 1·6	+ 1·3	+ 1·8	+ 1·8	+ 2·4	+ 4·4	+ 5·2	+ 2·7	5
6	— 0·6	— 1·0	— 1·0	— 0·2	+ 0·1	+ 0·1	+ 0·2	+ 0·2	— 0·4	— 1·6	— 0·2	0·0	— 0·4	6
7	— 3·8	— 3·8	— 3·0	— 1·5	— 0·4	— 0·4	— 1·0	— 0·7	— 0·7	— 2·4	— 3·2	— 4·0	— 2·1	7
8	— 4·6	— 4·4	— 4·4	— 2·0	— 1·2	— 1·4	— 1·8	— 1·6	— 2·4	— 3·6	— 4·8	— 6·0	— 3·2	8
9	— 5·4	— 4·4	— 6·0	— 3·5	— 2·2	— 1·8	— 2·5	— 1·5	— 2·5	— 4·6	— 5·2	— 6·6	— 3·9	9
10	— 6·0	— 6·8	— 6·4	— 4·2	— 2·5	— 2·4	— 2·6	— 2·8	— 3·2	— 5·4	— 5·6	— 6·8	— 4·6	10
11	— 6·4	— 4·8	— 6·2	— 5·0	— 2·8	— 3·2	— 2·7	— 2·5	— 3·7	— 6·0	— 6·0	— 7·6	— 4·7	11
12	— 7·4	— 5·2	— 6·2	— 6·0	— 3·5	— 3·0	— 3·0	— 3·2	— 3·8	— 5·6	— 7·2	— 7·6	— 5·1	12
13	— 7·2	— 5·4	— 6·2	— 6·0	— 3·6	— 2·8	— 4·7	— 3·2	— 4·7	— 6·0	— 7·6	— 7·8	— 5·4	13
14	— 7·2	— 5·6	— 6·6	— 6·8	— 4·2	— 3·2	— 4·4	— 2·6	— 5·8	— 6·2	— 7·6	— 7·6	— 5·7	14
15	— 7·0	— 6·2	— 6·6	— 7·3	— 4·4	— 3·4	— 4·7	— 3·0	— 5·0	— 6·0	— 7·8	— 7·6	— 5·8	15
16	— 7·2	— 6·4	— 6·8	— 7·8	— 4·5	— 3·2	— 3·6	— 3·2	— 6·4	— 6·8	— 8·0	— 8·0	— 6·0	16
17	— 6·8	— 7·0	— 7·0	— 7·3	— 4·4	— 3·4	— 3·7	— 4·5	— 5·7	— 7·4	— 8·0	— 7·8	— 6·1	17
18	— 4·0	— 6·2	— 7·0	— 7·4	— 4·7	— 3·4	— 4·0	— 3·8	— 6·0	— 5·8	— 5·0	— 4·0	— 5·1	18
19	— 0·2	— 2·6	— 4·8	— 7·5	— 4·4	— 3·8	— 4·7	— 5·0	— 5·5	— 2·0	— 0·8	+ 0·8	— 3·4	19
20	+ 2·6	0·0	— 0·6	— 2·8	— 3·9	— 4·7	— 4·4	— 3·0	— 1·2	+ 0·6	+ 2·6	+ 4·0	— 0·9	20
21	+ 5·0	+ 3·8	+ 3·6	+ 1·7	— 0·6	— 2·4	— 1·7	— 1·2	+ 2·3	+ 4·8	+ 5·0	+ 6·8	+ 2·3	21
22	+ 7·4	+ 7·0	+ 8·2	+ 6·6	+ 4·1	+ 1·5	+ 2·4	+ 3·4	+ 5·2	+ 8·0	+ 7·6	+ 8·8	+ 5·9	22
23	+ 9·2	+ 9·4	+11·0	+ 8·7	+ 6·4	+ 4·4	+ 5·5	+ 5·8	+ 6·8	+ 9·4	+ 9·8	+ 9·8	+ 8·0	23

The expressions for the diurnal and semi-diurnal variations from the Mean are,

$$-7{\cdot}77 \sin (15h + 70°{\cdot}13') - 2{\cdot}63 \sin (30h + 68°{\cdot}18'),$$

where h expresses the number of hours from Gottingen Mean Noon.

TABLE XIX.

Corrections for the reduction to the Mean Daily value of the Humidity of the Air, for each hour of the day, deduced from the Observations made at the Royal Observatory, Cape of Good Hope, during the years 1841 *to* 1846.

CAPE MEAN TIME.—COMPLETE SATURATION = 100.

Hour.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Hour.
0	+ 9·6	+10·1	+11·3	+10·1	+ 7·6	+ 5·5	+ 7·0	+ 6·6	+ 7·6	+ 9·6	+10·3	+10·4	+ 9·0	0
1	+10·2	+10·7	+12·0	+12·1	+ 8·5	+ 7·3	+ 8·7	+ 7·6	+ 8·7	+10·4	+10·7	+11·3	+ 9·9	1
2	+ 9·9	+ 9·8	+12·0	+12·5	+ 8·4	+ 7·9	+ 8·7	+ 7·6	+ 9·1	+10·6	+10·3	+11·2	+ 9·8	2
3	+ 8·9	+ 8·8	+11·0	+11·1	+ 7·6	+ 7·3	+ 8·0	+ 7·1	+ 8·6	+ 9·3	+ 9·4	+10·2	+ 8·9	3
4	+ 7·6	+ 6·9	+ 8·7	+ 8·8	+ 5·4	+ 5·6	+ 5·7	+ 5·9	+ 6·7	+ 7·5	+ 8·2	+ 8·9	+ 7·2	4
5	+ 5·6	+ 4·0	+ 5·0	+ 4·9	+ 2·6	+ 3·0	+ 2·6	+ 3·4	+ 3·6	+ 4·5	+ 6·0	+ 6·7	+ 4·3	5
6	+ 1·9	+ 1·1	+ 1·0	+ 1·0	+ 0·6	+ 0·9	+ 0·8	+ 1·0	+ 1·7	+ 0·4	+ 2·1	+ 2·6	+ 1·2	6
7	— 2·2	— 2·4	— 2·0	— 0·9	— 0·2	— 0·2	— 0·4	— 0·3	— 0·6	— 2·0	— 1·7	— 2·0	— 1·2	7
8	— 4·2	— 4·1	— 3·7	— 1·8	— 0·8	— 0·9	— 1·4	— 1·2	— 1·6	— 3·0	— 4·0	— 5·0	— 2·6	8
9	— 5·0	— 4·4	— 5·2	— 2·8	— 1·7	— 1·6	— 2·2	— 1·6	— 2·5	— 4·1	— 5·0	— 6·3	— 3·5	9
10	— 5·7	— 5·6	— 6·2	— 3·9	— 2·4	— 2·1	— 2·6	— 2·2	— 2·9	— 5·0	— 5·4	— 6·7	— 4·2	10
11	— 6·2	— 5·8	— 6·3	— 4·6	— 2·7	— 2·8	— 2·7	— 2·7	— 3·5	— 5·7	— 5·8	— 7·2	— 4·7	11
12	— 6·9	— 5·0	— 6·2	— 5·5	— 3·2	— 3·1	— 2·9	— 2·9	— 3·8	— 5·8	— 6·6	— 7·6	— 5·0	12
13	— 7·3	— 5·3	— 6·2	— 6·0	— 3·6	— 2·9	— 3·9	— 3·2	— 4·3	— 5·8	— 7·4	— 7·7	— 5·3	13
14	— 7·2	— 5·5	— 6·4	— 6·4	— 3·9	— 3·0	— 4·6	— 2·9	— 5·3	— 6·1	— 7·6	— 7·7	— 5·6	14
15	— 7·1	— 5·9	— 6·6	— 7·1	— 4·3	— 3·3	— 4·6	— 2·8	— 5·4	— 6·1	— 7·7	— 7·6	— 5·7	15
16	— 7·1	— 6·3	— 6·7	— 7·6	— 4·5	— 3·3	— 4·2	— 3·1	— 5·7	— 6·4	— 7·9	— 7·8	— 5·9	16
17	— 7·0	— 6·7	— 6·9	— 7·6	— 4·5	— 3·3	— 3·7	— 3·9	— 6·1	— 7·1	— 8·0	— 7·9	— 6·1	17
18	— 5·4	— 6·6	— 7·0	— 7·4	— 4·6	— 3·4	— 3·9	— 4·2	— 5·9	— 6·6	— 6·5	— 5·9	— 5·6	18
19	— 2·1	— 4·4	— 5·9	— 7·5	— 4·6	— 3·6	— 4·4	— 4·4	— 5·8	— 3·9	— 2·9	— 1·6	— 4·2	19
20	+ 1·2	— 1·3	— 2·7	— 5·2	— 4·2	— 4·3	— 4·6	— 4·0	— 3·4	— 0·7	+ 0·9	+ 2·4	— 2·2	20
21	+ 3·8	+ 1·9	+ 1·5	— 0·6	— 2·3	— 3·6	— 3·1	— 2·1	+ 0·6	+ 2·7	+ 3·8	+ 5·4	+ 0·7	21
22	+ 6·2	+ 5·4	+ 5·9	+ 4·2	+ 1·8	— 1·0	+ 0·4	+ 1·1	+ 3·8	+ 6·4	+ 6·3	+ 7·8	+ 4·0	22
23	+ 8·3	+ 8·2	+ 9·6	+ 7·7	+ 5·3	+ 3·0	+ 4·0	+ 4·6	+ 6·0	+ 8·7	+ 8·7	+ 9·3	+ 7·0	23

The expressions for the diurnal and semi-diurnal variations from the Mean are,

$$-7{\cdot}77 \sin (15h + 61°{\cdot}41') - 2{\cdot}63 \sin (30h + 51°{\cdot}14'),$$

where h expresses the number of hours from Cape Mean Noon.

TABLE XX.

The Mean Humidity of the Air for each month of the year, for the years 1841 *to* 1870, *at the Royal Observatory, Cape of Good Hope.*

Mean Humidity for each month of	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Yearly Mean.
1841	...	...	...	79	78	81	81	87	81	81	78	76	...
1842	77	70	74	73	81	82	81	82	81	73	74	70	76·5
1843	70	74	72	...	91	86	81	77	76	74	75	71	...
1844	71	72	76	75	72	81	79	78	73	72	71	71	74·3
1845	72	74	69	75	79	76	76	80	81	73	67	66	74·0
1846	71	71	69	73	81	82	...	...	...	...	...	...	...
1847	65	69	69	72	76	80	84	81	78	75	71	68	74·0
1848	68	73	75	83	84	85	84	85	81	74	73	71	78·0
1849	65	68	68	75	84	85	90	85	80	74	69	70	76·1
1850	72	74	76	81	87	86	84	84	84	82	81	74	80·4
1851	75	74	75	82	81	83	84	75	77	77	74	68	77·1
1852	65	66	69	75	77	79	83	81	77	70	64	68	72·8
1853	66	66	69	75	80	79	74	76	72	72	65	65	71·6
1854	62	70	69	76	77	75	82	78	71	71	69	65	72·1
1855	63	67	72	74	79	83	81	81	80	74	67	65	73·8
1856	67	65	69	68	80	83	80	76	76	72	65	69	72·5
1857	63	65	68	75	81	84	76	79	77	72	69	65	72·8
1858	67	68	66	67	81	82	84	80	75	70	65	64	72·4
1859	67	68	69	71	77	82	77	82	77	74	73	64	73·4
1860	64	70	67	69	81	79	78	74	77	71	63	67	71·7
1861	66	63	66	72	80	81	77	80	78	67	65	66	71·8
1862	62	65	67	71	75	80	81	77	76	75	72	66	72·3
1863	63	64	73	75	77	82	81	82	73	74	66	67	73·1
1864	64	65	64	69	79	79	80	75	75	71	67	65	71·1
1865	63	65	68	72	72	79	82	77	74	74	64	61	70·9
1866	62	70	65	76	77	80	77	83	75	73	71	63	72·7
1867	61	64	70	77	84	80	77	76	70	72	67	67	72·1
1868	64	67	66	71	80	82	75	75	78	68	69	66	71·8
1869	66	64	66	71	80	84	81	80	81	75	72	66	74·1
1870	68	65	70	70	82	81	81	82	74	72	66	65	73·0
Mean	66·5	68·1	69·5	73·9	79·8	81·4	80·4	79·6	76·8	73·2	69·4	67·2	(73·6)

The monthly Means of Humidity require three small corrections—

1. For the reduction of five Observations to Daily Mean.
2. For index errors of Thermometers.
3. For difference between Kupffer's and Glaisher's Tables.

These corrections have been examined for Mean results. They are but small and have been neglected.

The effects of the change of position of the Thermometers after 1851 are very strongly marked.

The expressions for the annual and semi-annual variations will be—

$$= 73{\cdot}8 + 7{\cdot}5 \sin (\odot - 99^\circ) - 0{\cdot}6 \sin (2 \odot - 33^\circ).$$

The maximum Humidity therefore takes place about the end of June, and the minimum Humidity about the middle of January. This is nearly the reverse of the Tension of the Vapour.

TABLE XXI.

The Rain-fall for each month of the year, for the years 1841 *to* 1870, *at the Royal Observatory, Cape of Good Hope.*

Sum of Rain-fall for each month of	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Yearly Fall.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1841	...	...	...	1·619	3·250	3·906	1·226	2·381	1·489	3·683	1·046	1·191	(19·791)
1842	0·891	0·182	0·681	0·985	3·731	6·942	1·712	4·678	3·145	1·189	1·332	0·800	26·268
1843	0·008	1·485	0·334	3·099	2·885	6·870	2·456	2·358	1·298	0·232	3·712	0·084	24·821
1844	0·458	1·894	0·549	3·121	0·344	4·104	2·875	2·603	1·299	0·371	0·811	0·354	18·783
1845	3·183	0·297	0·692	0·890	3·752	2·490	1·903	3·745	2·694	0·378	0·436	0·453	20·913
1846	2·414	0·964	0·487	1·025	8·963	2·077	0·736	1·608	2·407	0·343	1·077	0·402	22·503
1847	0·620	0·080	0·171	3·365	2·316	2·757	1·767	6·033	1·477	1·281	1·419	1·092	22·378
1848	0·048	1·925	0·642	2·117	3·177	5·247	3·499	2·471	2·328	0·219	0·894	0·679	23·246
1849	0·250	0·464	0·491	0·578	6·730	3·496	4·326	2·992	2·310	0·605	0·929	1·444	24·615
1850	2·074	0·195	1·593	4·376	2·377	6·396	4·464	3·587	2·693	3·435	1·863	0·414	33·467
1851	0·189	0·036	0·153	0·982	2·992	6·825	3·851	0·594	1·402	2·104	0·576	0·601	20·305
1852	0·307	0·508	1·652	1·262	4·815	1·709	3·716	4·524	2·407	0·778	1·165	0·343	23·186
1853	1·195	0·406	2·126	1·117	2·581	3·982	4·058	2·717	1·462	1·322	0·082	0·171	21·219
1854	0·319	0·530	1·247	1·130	2·305	2·992	2·826	3·360	2·848	1·281	0·834	0·376	20·048
1855	0·369	0·175	1·032	1·802	3·098	4·472	2·706	5·246	4·880	0·655	0·124	0·012	24·571
1856	0·363	0·341	0·944	0·436	3·390	3·062	3·363	2·225	1·594	1·215	1·275	1·267	19·475
1857	0·229	0·411	0·131	2·332	2·771	4·564	3·069	3·981	1·779	1·296	0·260	1 223	22·046
1858	1·222	0·984	0·826	2·645	0·754	2·978	4·276	5·608	2·695	0·726	1·112	0·444	24·270
1859	1·826	0·964	1·051	0·780	6·925	5·457	6·524	4·786	3·215	2·400	2·579	0·213	36·720
1860	0·850	1·045	0·635	1·186	6·572	4·961	4·926	0·923	5·019	2·084	0·237	0·678	29·116
1861	0·797	0·068	0·867	1·582	4·315	7·608	4·297	1·915	2·544	0·109	1·287	0·053	25·442
1862	0·227	0·233	0·373	0·939	1·247	10·783	6·279	4·059	2·244	4·040	1·584	0·000	32·008
1863	0·202	0·673	2·914	2·560	5·338	3·206	2·371	2·678	1·715	2·707	0·924	0·315	25·603
1864	0·537	0·010	0·290	1·011	2·780	4·365	2·684	2·178	1·982	1·963	0·995	0·120	18·915
1865	0·298	0·135	0·388	1·850	3·878	0·934	4·911	1·676	0·652	3·109	0·568	0·269	18·668
1866	0·032	3·104	0·185	1·501	0·763	5·658	2 380	2·266	1·439	1·003	0·396	0·480	19·207
1867	0·393	1·064	1·058	2·443	3·041	3·542	4·343	1·358	1·441	3·526	0·213	0·543	22·965
1868	0·710	1·037	0·467	2·165	1·870	3·359	2·653	0·692	0·904	2·715	2·382	0·999	19·953
1869	0·174	0·065	0·554	1·876	8·057	9·515	3·060	4·119	1·183	1·026	1·293	1·413	32·335
1870	0·719	0·070	0·161	1·364	4·354	5·236	6·742	4·440	1·313	1·765	0·439	1·458	28·061
Mean	0·721	0·667	0·783	1·738	3·646	4·650	3·467	3·060	2·129	1·585	1·062	0·596	24·104

The annual variations of the Monthly Mean are expressed by the formulæ,
2·01 inches + 1·75 sin (⊙ − 93°·42′) − 0·54 sin (2 ⊙ − 58°·14′).

The correspondence between the expressions for Humidity and Rain is strongly marked.

The correspondence between a curve swept to represent the variations in rain-fall and the inverse curve of the variations in Mean Temperature is of a marked character.

TABLE XXII.

The amount of Clouded Sky deduced from Observations at the Royal Observatory, Cape of Good Hope, during the years 1859 *to* 1870.—*When the whole visible Hemisphere is clouded the corresponding number is* 100.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Means
1859	35	26	33	36	54	51	45	54	46	47	46	26	42
1860	25	32	36	27	55	53	50	39	65	45	41	26	41
1861	33	34	41	39	56	56	45	49	55	31	39	29	42
1862	30	33	34	49	43	67	56	49	53	56	41	32	45
1863	21	32	43	42	46	50	47	48	42	53	42	30	42
1864	28	21	28	40	47	45	39	46	51	54	41	22	39
1865	21	33	23	41	46	35	52	49	43	55	38	30	39
1866	28	40	28	44	37	57	35	63	37	45	40	33	41
1867	26	35	32	52	61	56	55	35	40	52	37	43	44
1868	28	35	33	37	59	47	40	51	65	46	40	33	43
1869	24	29	36	36	55	59	39	40	48	48	45	40	41
1870	37	31	36	35	63	48	51	41	47	51	35	33	43
Means	28	32	33	40	52	52	46	47	49	49	40	31	42

The expression for the annual variations of the Monthly Mean of the extent of Clouded Sky will be,

$$42 + 10{\cdot}6 \sin (\odot - 113°{\cdot}31') + 4 \sin (2 \odot - 150°) + 3 \sin (3 \odot - 11°).$$

TABLE XXIII.

The Mean Hourly Velocity of the Wind for each month of the year, for the years 1860 *to* 1870, *at the Royal Observatory, Cape of Good Hope.*

Mean Velocity for each Month of	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Yearly Mean.
	miles	miles	miles	miles	miles	miles	miles	miles	miles	miles	miles	miles	miles
1860	...	14·05	13·39	11·37	7·63	7·69	8·45	8·94	9·58	12·56	14·97	18·11	(11·75)
1861	14·21	12·70	13·63	10·68	8·58	7·54	8·01	8·19	9·52	14·21	12·70	17·18	11·43
1862	12·44	9·76	11·34	11·53	8·23	10·31	8·24	10·95	11·09	...	...	16·34	(11·34)
1863	16·92	13·93	9·42	8·32	7·37	6·52	8·78	8·03	9·83	11·92	12·91	13·24	10·60
1864	12·65	18·48	13·76	10·38	8 19	8·57	7·96	9·06	9·78	11·06	10·39	13·54	11·15
1865	15·18	12·59	8·72	6·85	9·45	5·23	8·33	9·60	11·07	8·99	10·37	13·15	9·96
1866	14·63	14·40	10·86	8·72	8·16	8·17	6·83	9·41	10·57	10·00	13·68	10·51	10·50
1867	15·57	13·71	15·01	8·69	4·93	9·45	7·07	9·21	10·33	11·56	14·06	12·45	11·00
1868	14·99	15·26	14 56	9·62	6·06	5·91	7·57	10·29	8·62	15·15	12·94	10·25	10·94
1869	13·61	14·38	13·57	9·08	7·76	8·98	6·66	7·90	9·29	10·94	12·66	10·74	10·46
1870	11·29	13·82	10·87	8·63	7·45	7·18	7·90	6·53	9·64	10·82	12·77	13·41	9·98
Means	14·15	13·87	12·29	9·44	7·62	7·78	7·80	8·92	9·94	11·72	12·75	13·54	(10·83)

The expression for the annual variations of the velocity of the Wind will be, in miles, per hour,

$$= 10{\cdot}82 - 3{\cdot}34 \sin (\odot - 90°{\cdot}16') + 0{\cdot}545 \sin (2 \odot - 1°{\cdot}45').$$

$\odot$ in all the formulæ is equal to 15° for the middle of January, and increases 30° for each month.

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